

This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + Make non-commercial use of the files We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + Refrain from automated querying Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + Maintain attribution The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + Keep it legal Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at http://books.google.com/



The Branner Geological Library



LELAND-STANFORD-FVNIOR-VNIVERSITY





14.4

.

						•			
		•							
				•					
			•						
					·				
					•				
•									
			•						
									•
						•			
						•		•	
	,					•			
									1
		•							
				•					
						•			
							•		
						•			

MEMOIRS

Ja planen

OF THE

MUSEUM OF COMPARATIVE ZOÖLOGY

ΑT

HARVARD COLLEGE.

VOL. XXVIII.

PLATES.

II.

CAMBRIDGE, U.S.A. • PRINTED FOR THE MUSEUM. 1903.

University Press:

John Wilson and Son, Cambridge, U.S.A.

CONTENTS.

REPORTS ON THE SCIENTIFIC RESULTS OF THE EXPEDITION TO THE TROPICAL PACIFIC, in charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," from August, 1899, to March, 1900, Commander Jefferson F. Moser, U. S. N., Commanding. IV. The Coral Reefs of the Tropical Pacific. By Alexander Agassiz. pp. xxxiii., 410. 238 Plates. February, 1903.

ONE VOLUME TEXT. THREE VOLUMES PLATES.

University Press:

John Wilson and Son, Cambridge, U.S.A.

CONTENTS.

REPORTS ON THE SCIENTIFIC RESULTS OF THE EXPEDITION TO THE TROPICAL PACIFIC, in charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," from August, 1899, to March, 1900, Commander Jefferson F. Moser, U. S. N., Commanding. IV. The Coral Reefs of the Tropical Pacific. By Alexander Agassiz. pp. xxxiii., 410. 238 Plates. February, 1903.

ONE VOLUME TEXT. THREE VOLUMES PLATES.

University Press:

John Wilson and Son, Cambridge, U.S.A.

CONTENTS.

REPORTS ON THE SCIENTIFIC RESULTS OF THE EXPEDITION TO THE TROPICAL PACIFIC, in charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," from August, 1899, to March, 1900, Commander Jefferson F. Moser, U. S. N., Commanding. IV. The Coral Reefs of the Tropical Pacific. By Alexander Agassiz. pp. xxxiii., 410. 238 Plates. February, 1903.

ONE VOLUME TEXT. THREE VOLUMES PLATES.

Memoirs of the Museum of Comparative Zoölogy AT HARVARD COLLEGE.

Vol. XXVIII.

REPORTS ON THE SCIENTIFIC RESULTS OF THE EXPEDITION TO THE TROPICAL PACIFIC, IN CHARGE OF ALEXANDER AGASSIZ, BY THE U. S. FISH COMMISSION STEAMER "ALBATROSS," FROM AUGUST, 1899, TO MARCH, 1900, COMMANDER JEFFERSON F. MOSER, U. S. N., COMMANDING.

IV.

THE CORAL REEFS

OF THE

TROPICAL PACIFIC.

BY ALEXANDER AGASSIZ.

II. - PLATES 106 TO 199.

NIUE TO LADRONES.

[Published by permission of George M. Bowers, U. S. Commissioner of Fish and Fisheries.]

CAMBRIDGE, U.S.A.: Printed for the Museum.

FEBRUARY, 1903.

51

209889

YAAABI GACTAATS

PT.ATE 106

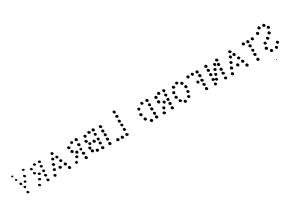


PLATE 106. .

- 1. Aitutaki seen from the northeast, looking over the barrier reef.
- 2. Terraces on the west shore of Niue, north of Avatele.
- 3. Bare, pitted and honeycombed terraces on the southwest point of Niue.

 1, 2, W. McM. W.; 3, A. G. M., Phot.



Plate **107**.

PLATE 107.

NIUE.

- 1. Terraces on the southwest face of the island.
- Buttresses of elevated coralliferous limestone, near Alofi landing.
 1, 2, A. G. M., Phot.

			'
			•
i e			

PLATE **108**.

PLATE 108.

NIUE.

- 1. Buttresses on the west face of the island, north of Alofi landing.
- Buttresses on the west face of the island, looking south of Alofi landing.
 1, 2, W. McM. W., Phot.

"Albatross" Tropical Pacific Expedition

Coral Reefs, PLATE 108.



1



HELIOTYPE OO., BOSTON.

	-		
			1
	•		
			·
•			
		•	

PLATE **109**.

PLATE 109.

Buttresses of elevated coralliferous limestone on the west face of Niue, near Alofi landing.

A. G. M., Phot.

"Albatross" Tropical Pacific Expedition.

Coral Reefs, PLATE 109.



.

.

•

•

PLATE 110.

PLATE 110.

Undercut and elevated coralliferous limestone cliffs on the west face of Niue, riddled with caverns and partly covered by stalactites, near Alofi landing. W. McM. W., Phot.

•			
•			
	•		•
		·	

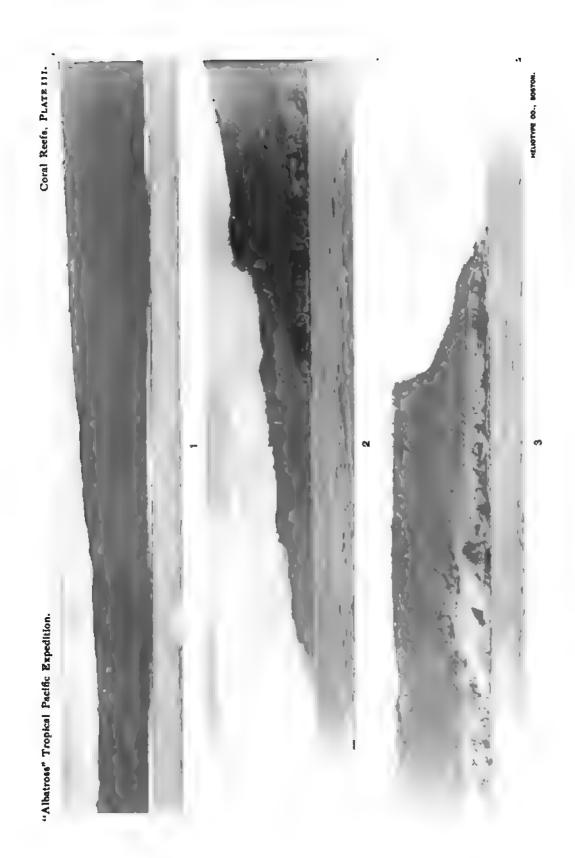
PLATE 111.

PLATE 111.

EUA.

- 1. Indistinct terraces on the west side of the island, south of Ohonua. A. G. M., Phot.
- 2. East face of the island looking south from near the north point.
- 3. Cliffs of elevated coralliferous limestone on the north point of the island seen from the east.

2, 3, W. McM. W., Phot.



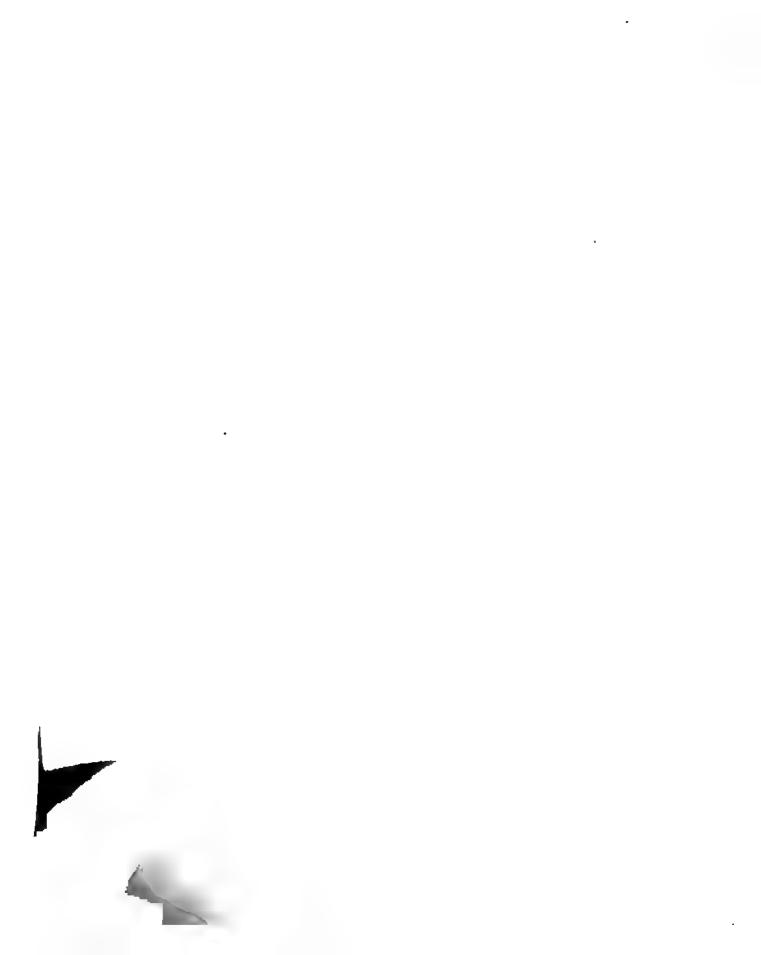


PLATE 112.

PLATE 112.

EUA.

- 1. Cliffs and terraces on the east face of the island, near the north point.
- Cliffs and terraces with lines of caverns and stalactites, on the east face of the island, about three miles south of the north point. Five terraces can be distinguished.
 1, 2, A. G. M., Phot.



"Albatross" Tropical Pacific Expedition.

• . • • .

·

PLATE 113.

PLATE 113.

EUA.

- 1. Undercut cliffs with lines of caverns and terraces, near the central and highest part of the east face of the island.
- 2. Elevated coralliferous limestone cliffs on the east face of the island. Fig. 2 follows Fig. 1, south.

1, 2, A. G. M., Phot.

"Albatroes" Tropical Pacific Expedition.

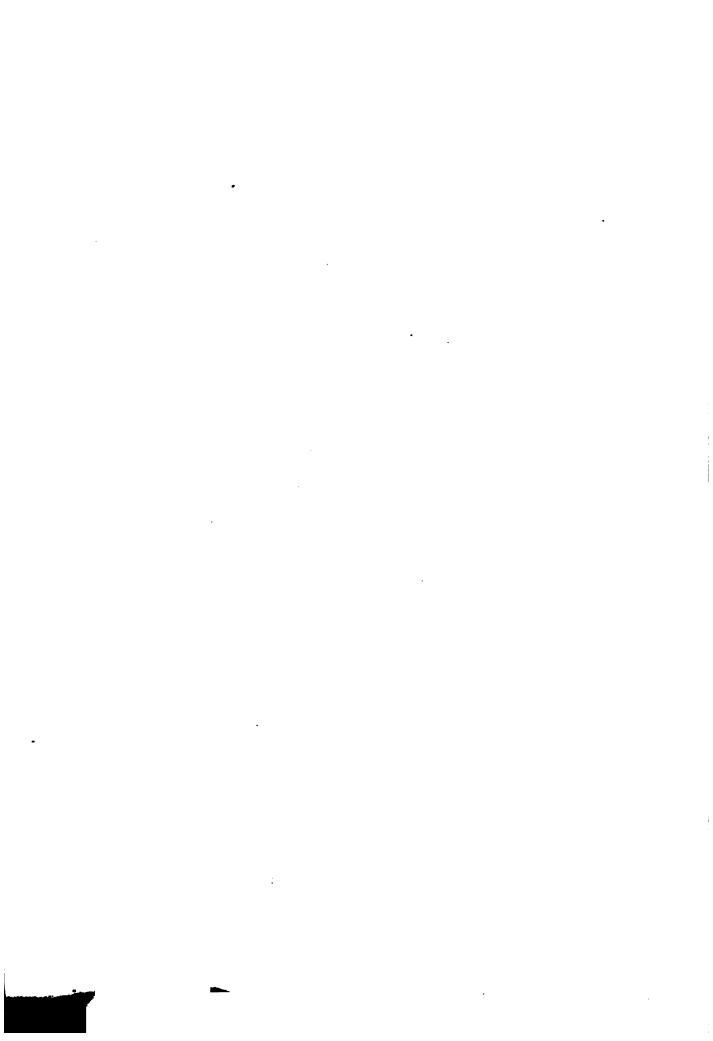


PLATE 113.

PLATE 114.

EUA.

- Looking from the summit of the western ridge of the island towards the gap near the lauding place on the west side, across the central valley to the northern part of the eastern ridge.
- 2. Looking eastward, from the third terrace on the western ridge, across the central valley towards the southern part of the eastern ridge; peaks of the fifth or sixth terrace on the right.
- 3. From the same point as Fig. 2, looking east, across the central valley, towards the middle of the eastern ridge.

1 3, W. McM. W., Phot.

L

PLATE 115.

PLATE 115

$T: N \mapsto \Delta T \Delta \mathbb{P} T$

- Entering the mirror of Nagrabifal loosing soum into the gap between Nakuleka and Hilleria.
- Fanga Kasan som ow ingole south of Nukuslofa.
- Looking east from the landing at Nukualofa, towards Pangaimotti, Makahaa, Velitos, and Fafa. Natives fishing on the dats.

L = W Mak W., Free

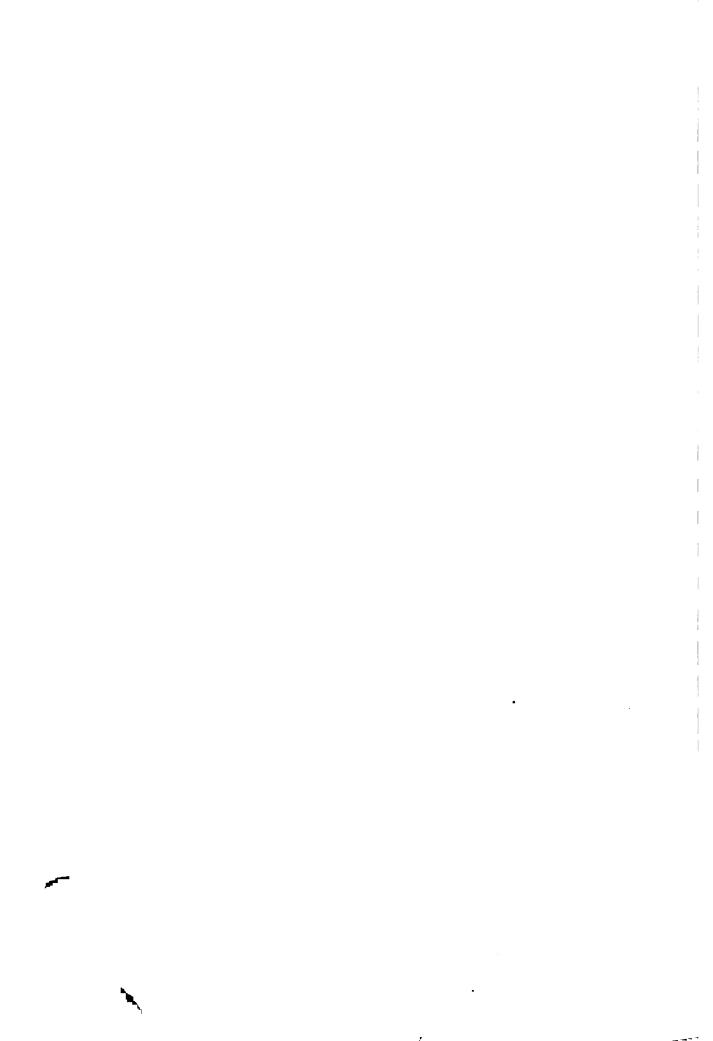


PLATE **116**.

P. 7 236

. 19.5. .3.7

- 1 . Lagran shore to the case of Nakare $\langle s \rangle$
- 2. Elevated lineston cuits at the societies of the significant lines of the significant lines.





HELIOTYPE CO., BOATON

	·		
		•	·
ı			

PLATE 116.

PLATE 116.

TONGATÁBU.

- 1. Lagoon shore to the east of Nukualofa.
- 2. Elevated limestone cliffs on the southwest face of the island.

1, 2, Martin, Phot.





HELIOTYPE CO. . BOSTON

		•	
•			

Plate 117.

PLATE 117.

TONGATÁBU.

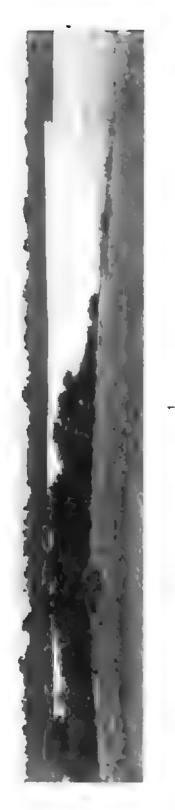
- 1. Blow holes on the outer edge of the reef flat platform at Houma Toloa, south point of the island (Cook's Point).
- 2. Undercut cliffs of elevated coralliferous limestone with lines of caverns and stalactites, on the Liku, or windward face of the island.
 - 1, 2, Martin, Phot.





HELIOTYPE GO., BOSTON

		•



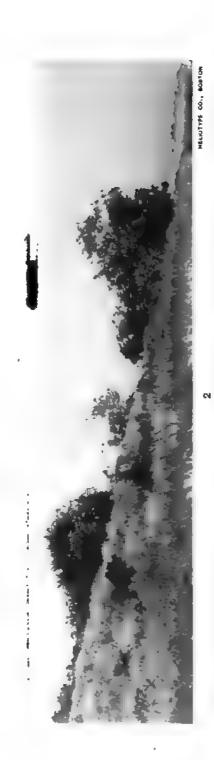




PLATE 120.





				•	
			•		
•					:
·					
				•	
	·				
				•	
	•				
					•
				٠	
		-			

PLATE 120.

PLATE 120.

VAVAU.

- 1. Looking northeast into the passage leading to the harbor of Neiafu, from off Fata Point.
- 2. Limestone bluffs to the south of Muitoulo Point on the west shore of Vavau, Houma-fakalele Point in the distance, seen from the west. W. McM. W., Phot.
- Looking east across Neiafu Neck towards the islands on the east face of Vavau.
 1, 3, A. G. M., Phot.

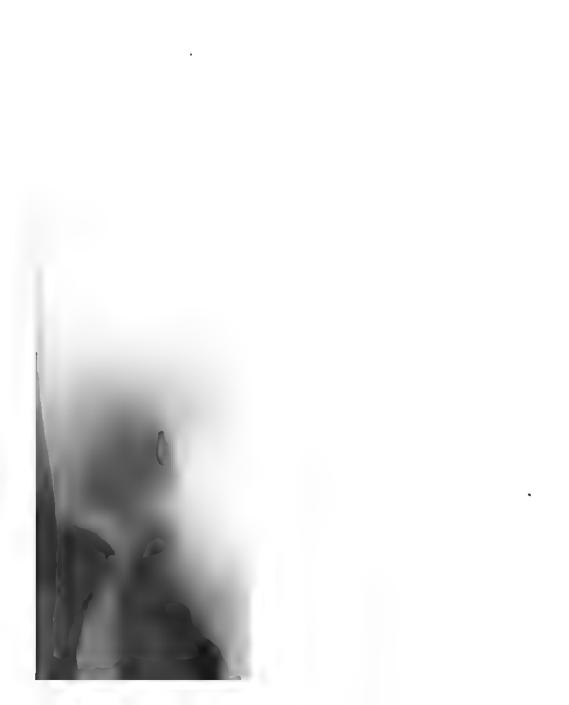


PLATE 121.

PLATE 121.

VAVAU.

- 1. The west face of Hunga Island seen from the north, off the entrance to Vavsu (Faihava).
- 2. Elevated coralliferous limestone cliffs and terraces to the east of Fata Point.
- 3. Neiafu Harbor, Talau and Moungalafa terraces seen from Holobeka.

1, 2, W. McM. W., Phot.





PLATE **122**.

PLATE 122.

- 1. Off the Talau, looking southeast towards Moungalafa (Vavau).
- 2. A corner of Vavau Harbor seen from the Talau. Martin, Phot.
- 3. Vegetation along the road on the summit of the third terrace, western ridge of Eua.

 1, 3, W. McM. W., Phot.



Pur 121

VAVAU

- 1. The west face of Hunga Island seen from the morth, off the entrance to Vavan Fallava.
- 2. Estated coralider as linestone cliffs and terraces to the east of Fata Point.
- Nelafu Hartor, Talan and Mongalafa terraces seed from Holobeka.
 2. W. McM. W., Phys.



PLATE 122.

	-		
The state of the s			

PLATE 124.

PLATE 124

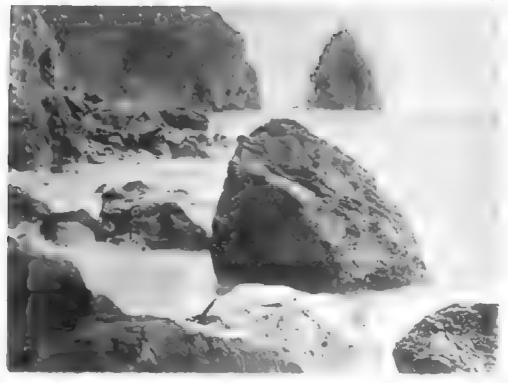
VAVAU.

- 1. Elevated coralliferous limestone chifs on the north side of Vavan. Martin. Phot.
- 2. Looking down upon the cliffs at Matakinina Point, seen from the east.

W. McM. W., Phot.

"Albatross" Tropical Pacific Expedition

Coral Reets, Privin 124





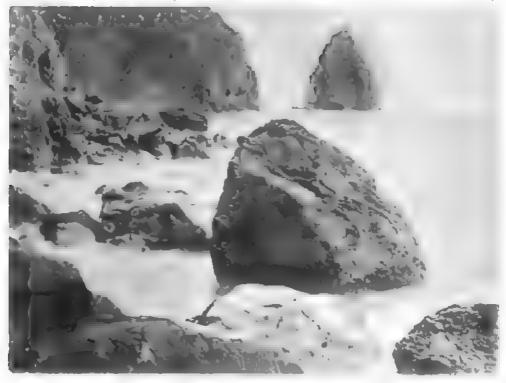




Limestone bluffs on the north side of Vavau. Martin, Phot.

"Albatross" Tropical Pacific Expedition.

Coral Reets, PLAIR 124





		:
	•	
		•
	•	
•		•
	·	

.

Limestone bluffs on the north side of Vavau. Martin, Phot.

"Albatross" Tropical Pacific Expedition.

	•		
·			;
			٠

PLATE 126.

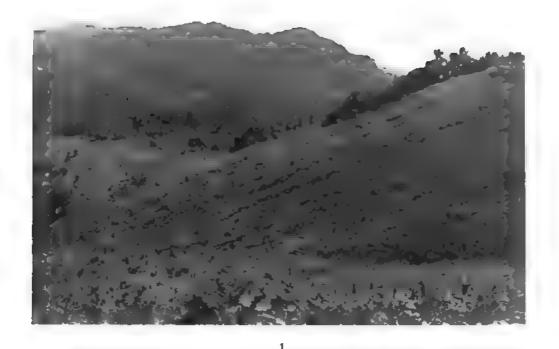
PLATE 126.

KAMBARA.

- 1. Inner slope of the rim of the sink on the southwestern face of the island. The slope in the foreground is composed of volcanic rocks; the rim in the background is made up of elevated limestone.
- 2. Looking east across the sink of the island, from the summit of the volcanic hill on the west side of the island.

1, 2, W. McM. W., Phot.

HELIOTYPE CO., BOSTON





		•		
		•		
		•		
			•	
		•		
	•			
	•			
1				
			•	

Plate 127.

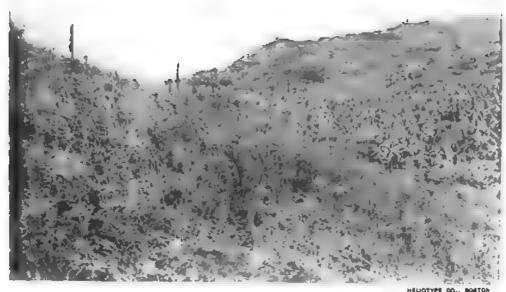
PLATE 127.

KAMBARA.

- 1. Looking northeast across the sink of the island, from the summit of the volcanic hill on the west face. Wangava in the distance.
- 2. Gap on the west face of the island, at the junction of the volcanic hill and of the elevated coralliferous limestone rim of the island. Wangava in the distance.

1, 2, W. McM. W., Phot.





			1
	•		
•		·	
		•	
		·	
	•		
	·		
			-
	•		

PLATE **128**.

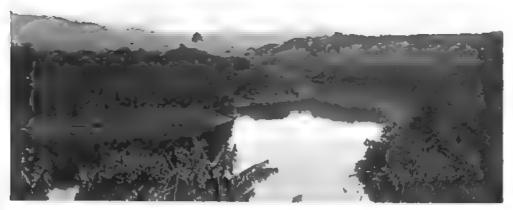
PLATE 128.

- 1. A bend in the Rewa, southern face of Viti Levu.
- 2. Ba River, northern face of Viti Levu.
- 3. Volcanic islet, an outlier on the reef flat platform of the northern face of Rotumah.

 ${\rm ``Albatross'' Tropical \ Pacific \ Expedition.}$

Coral Reefs, PLATE 128.









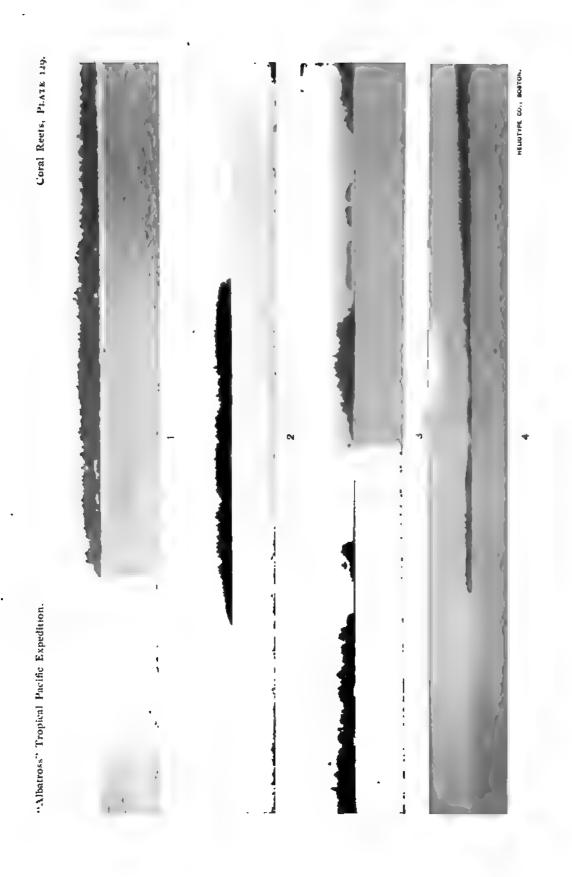
HELIOTYPE CO , BOSTON.

		-
	•	•

PLATE 129.

PLATE 129.

- 1. South end of Nurakita (Ellice Islands), looking west.
- 2. Nukufetau seen approaching it from the south.
- 3. Looking across the east face of the northern part of Nukufetau atoll.
- 4. The Motungie Islands at the southern extremity of the atoll of Funafuti.
 1, 3, A. G. M.; 2, 4, W. McM. W., Phot.



	·			
		•		
		•		
	•			
•				
			•	
		•		
		•		
•				
		•		

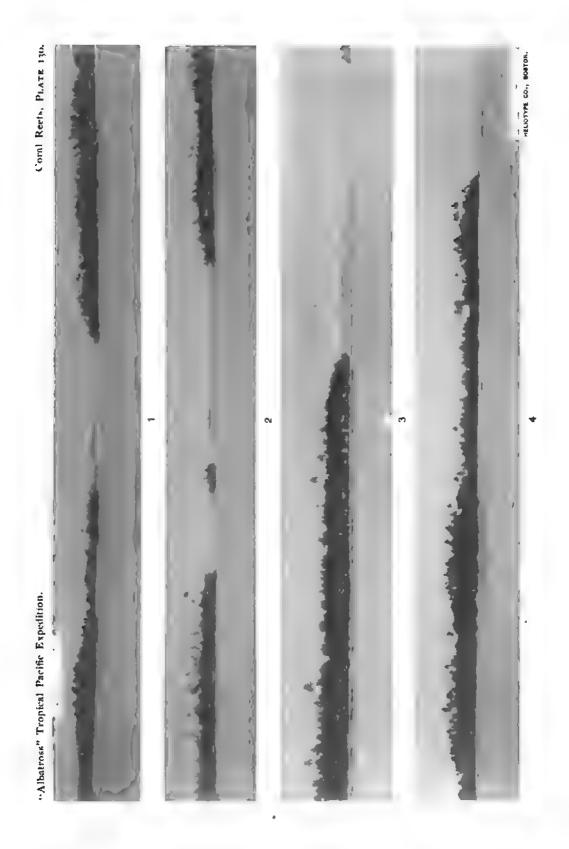
PLATE 130.

PLATE 130.

FUNAFUTI.

- 1. Gap on the east face of the atoll between Telele and Funafara; the islands of Tutanga and Falaoingo in the rear.
- 2. Gap on the east face of the atoll between Funafara and Lua Motu. In the distance is seen Tefala Island.
- 3. Gap on the east face of the atoll between the north end of Lua Motu and Mateika.
- 4. Northern extremity of Funamanu islet, on the east face of the atoll.

1, 2, W. McM. W.; 3, 4, A. G. M., Phot.



		•	
•			

· PLATE 131.

PLATE 131.

FUNAFUTI.

- 1. South end of Funafuti Island, with submerged reef to the south of Matafuana.
- 2. Northeast face of the atoll, showing Amatuku and Mulitefala Islands.
- 3. Gap between Amatuku and Mulitefala south of the northern entrance to the atoll; the island of Tebuka is seen in the distance through the gap, and to the right Fualifeke.
- 4. Te Afualiku, sand key north of the entrance, seen when approaching the southern horn of the north passage.

1, 2, A. G. M.; 3, 4, W. McM. W., Phot.

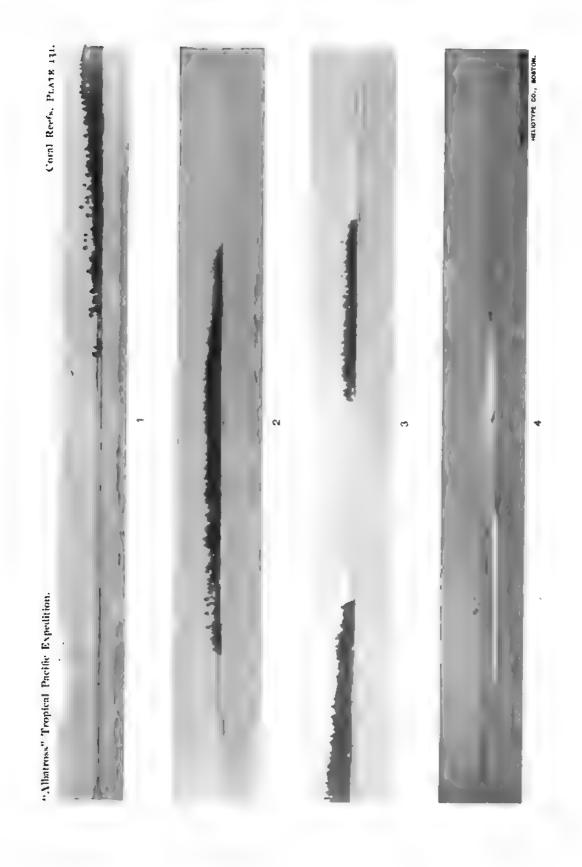


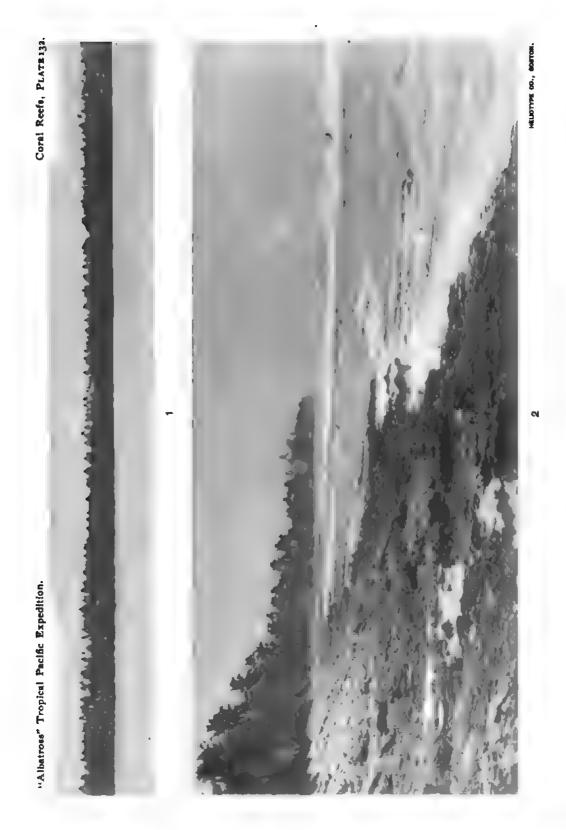


Plate 132.

PLATE 132.

FUNAFUTI.

- 1. Lagoon beach at Fongafale seen from the anchorage.
- 2. Sea face of the island north of the boring station north of Fongafale village. 1, 2, A. G. M., Phot.



·		•		
			•	
	•			
-				

PLATE 133.

PLATE 133.

FUNAFUTI.

- 1. Elevated recent reef rock conglomerate on the lagoon side of the northern part of Amatuku.
- 2. Gap between Funafuti and Tengako covered with rubble and coarse shingle, Tebuka Island in the distance.

1, 2, A. G. M., Phot.

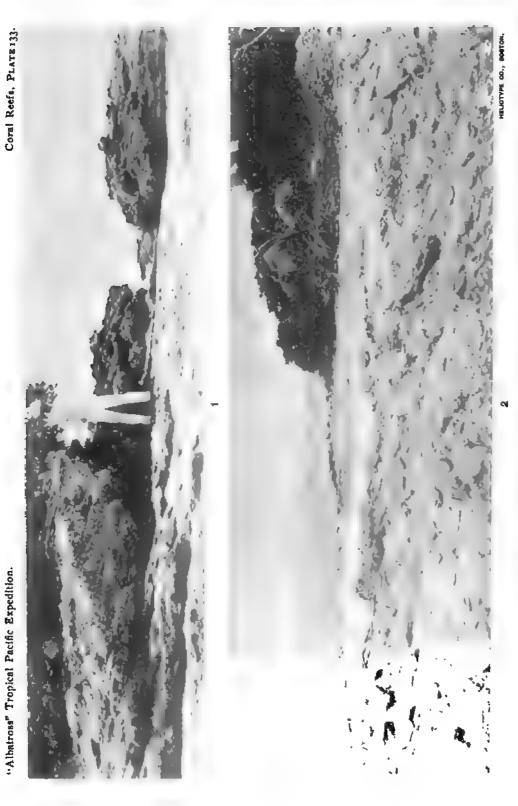




PLATE 134.

PLATE 134.

FUNAFUTI.

- 1. Northern extremity of Amatuku, looking towards Mulitefala. W. McM. W., Phot.
- 2. Looking north from the northern extremity of Amatuku towards the northern end of Mulitefala. A. G. M., Phot.



Plate **135**.

PLATE 135.

FUNAFUTI.

- 1. Sea face, northern end of Tengako, looking north, Amatuku in the distance.
- 2. Eroded sea face platform, eroded elevated beach rock, and reef rock outliers at the north end of Funafuti Islaud.

1, 2, W. McM. W., Phot.

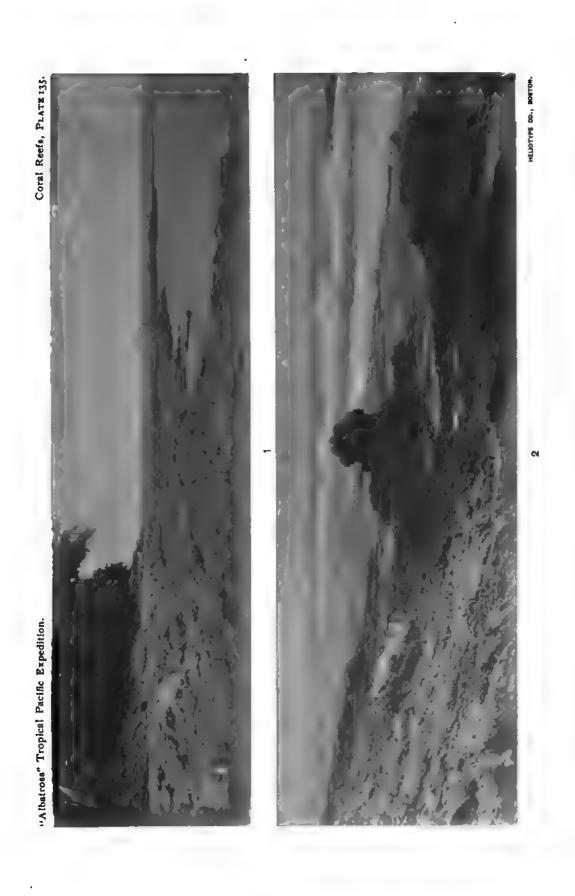


PLATE **135**.

PLATE 136.

FUNAFUTI.

- 1. Sea face on the northern part of Tengako, with elevated reef rock outliers.
- 2. Looking towards Amatuku on the sea face of the north point of Tengako. Reef flat platform covered with beach rock and reef rock slabs and boulders.

1, 2, W. McM. W., Phot.

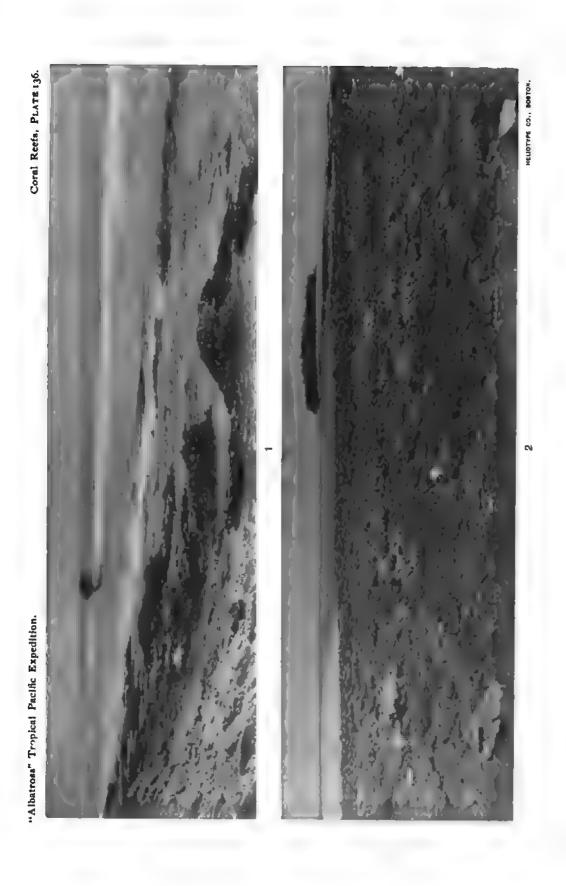




PLATE 137.

PLATE 137.

FUNAFUTI.

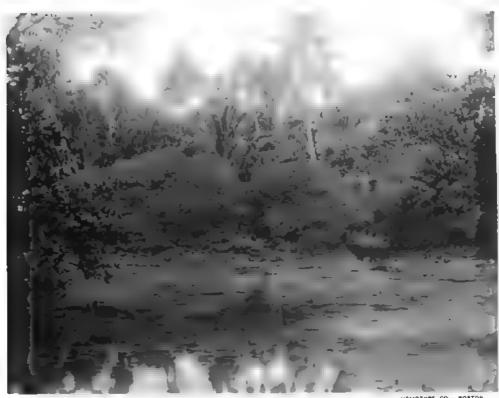
- 1. Southern part of Taiisale, the secondary lagoon to the east of Fongafale village.
- 2. Northern part of Taiisale.
- 3. Northern part of Taiisale near the Borehole.

1-3, W. McM. W., Phot.





2



·		•	•	
				•
			,	

Plate **138**.

PLATE 138.

TAPETEUEA.

- 1. Narrow island on the east face of the atoll, towards the northern part.
- 2. Islands, islets, and bars south of the central part on the east face of the stoll.
- 3. East face of the long island near the north end of the atoll.
- Islands on the east face of the northeastern part of Apamama.
 1 4, W. McM. W., Phot.





PLATE 139.

PLATE 139.

APAMAMA.

- 1. Gap between two islands on the east face of the atoll.
- 2. Bay in the large island on the east face of the atoll.
- 3. Sea face of island on the south side of the atoll.
- 4. Reef flat platform lagoon on the east face about two miles from the southern point of Maiana.

1-4, W. McM. W., Phot.

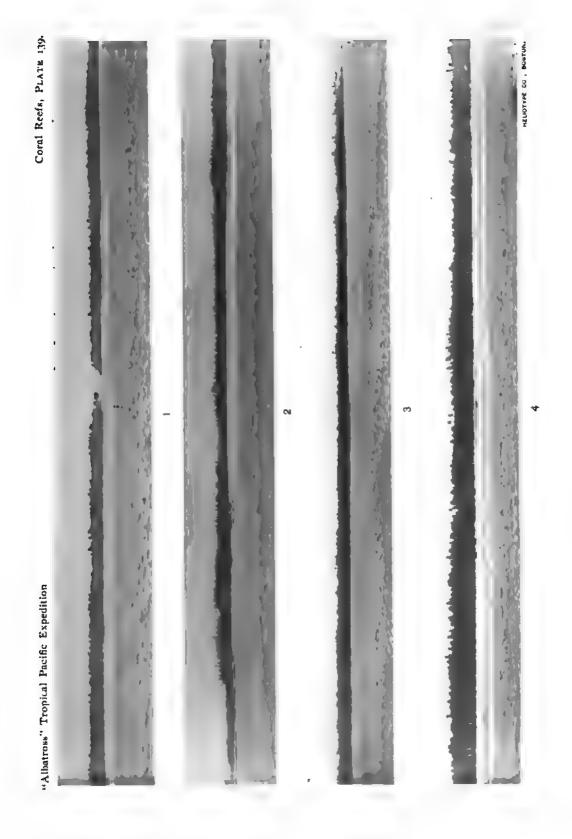




PLATE **140**.

PLATE 140.

1. Narrow part of land rim of Maiana near the point of the eastern horn of the atoll.

TARAWA.

- 2. Islands and islets on the east face of the atoll.
- 3. Looking from the sea into gap between islands on the east face of the atoll.
- 4. Looking from the sea into gap and bay between islands on the south face of the atoll.

 1-4, W. McM. W., Phot.

.

.		

PLATE **141**.

PLATE 141.

TARAWA.

- 1. Sea face of island on the south side of the atoll.
- 2. Islands, islets, and bars on the south face of the atoll.
- 3. Islands, islets, bars and secondary lagoon on the reef flat on the south side of the atoll.
- 4. A similar view with islands of the east face of the atoll in the distance.

1, 2, A. G. M.; 3, 4, W. McM. W., Phot.





Plate **142**.

PLATE 142.

TARAWA.

- 1. Lagoon shore and flat, looking south.
- 2 Lagoon side of islands and flat in rear of village. 1, 2, W. McM. W., Phot.



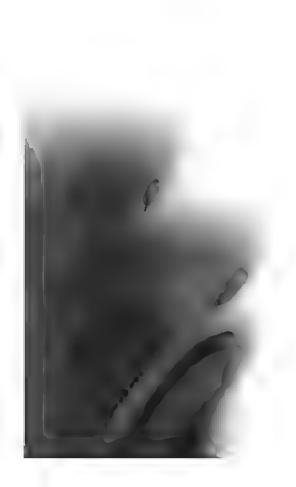


Plate **143**.

PLATE 143.

TARAWA.

- 1. Looking west along the lagoon shore, over the flat.
- 2. Sink in the lagoon, near the village.

1, 2, W. McM. W., Phot.



			,	
	•			
				•
			•	
-				•
L				

PLATE 144.

PLATE 144.

TARAWA.

- 1. Sink in the lagoon, looking towards the village.
- Lagoon side of the atoll, looking north along the sink.
 1, 2, W. McM. W., Phot.

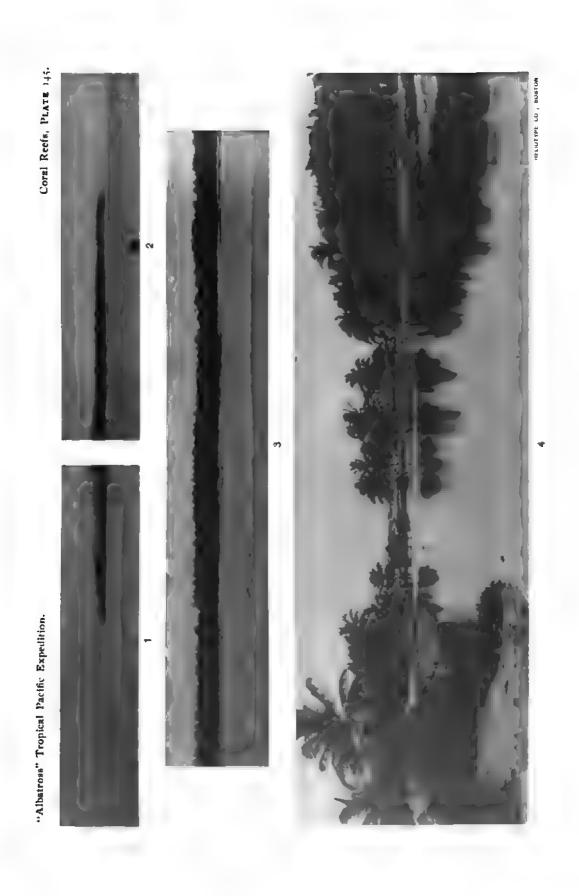




PLATE 145.

PLATE 145.

- 1. Looking into the lagoon across the gap north of the small island, at the north point of Apaiang.
- 2. Southeast horn of Apaiang seen from the south.
- 3. Sea face of island on the south face of Apaiang.
- 4. Sink in the lagoon of Tarawa, near the village, looking north. 1-3, W. McM. W.; 4, A. G. M., Phot.



	٠		

PLATE 146.

PLATE 146.

MARAKI.

- 1. Entrance into the lagoon, west face of the atoll.
- 2. South point of the atoll, looking northeast.
- 3. High sand beach and wide reef flat, on the north point of the west face of the atoll.

 1-3, A. G. M., Phot.



		·	
·			
	,		
,			

PLATE 147.

PLATE 147.

MARAKI.

- 1. Steep sand and shingle beach and wide steep reef flat, on the west face of the atoll near trader's house, north of entrance to the atoll.
 - Steep shingle and boulder beach north of Fig. 1, reef flat very narrow.
 1, 2, A. G. M., Phot.

"Albatross" Tropical Pacific Expedition.

Coral Reefs, PLATE 147.

. -

PLATE **148**.

PLATE 148.

MARAKI.

- 1. Looking into the lagoon over the narrow land rim on the south face of the atoll, high sand beach and narrow reef flat; land rim of the east face seen in the distance.
- 2. Another view of the same land rim, somewhat more to the westward; land rim of the east face seen in the distance.

1, 2, W. McM. W., Phot.

•		

PLATE 149.

PLATE 149.

MARAKI.

- 1. Looking through a gap across the lagoon over the narrow land rim of the southern face of the stoll, the eastern land rim seen in the distance; the secondary land rim in the middle ground. W. McM. W., Phot.
- 2. Secondary land rim on the outer edge of the lagoon flat and secondary lagoon; a second line of islands will form the third land rim; the east face of the atoll seen in the distance. A. G. M., Phot.





PLATE 150.

PLATE 150.

MARAKI.

- Looking over the low land rim on the southwest horn of the atoll, across the lagoon towards the land rim of the east face. W MeM. W., Phot.
- 2. Bars and secondary land rim, with lagoon flat, looking north along the lagoon face of the western land rim. A. G. M., Phot.







PLATE 151.

TARITARI.

- 1. Flat to the west of Butaritari, looking towards Passage Point.
- 2. Flat to the east of Butaritari, looking northeast.
- 3. Saud flats off Butaritari, between the anchorage and the shore.
- 4. Eastern born of Taritari, south of the gap between the villages of Kenea and Tanimaiaki.

1, 2, W. McM. W.; 3, 4, A.G. M., Phot.

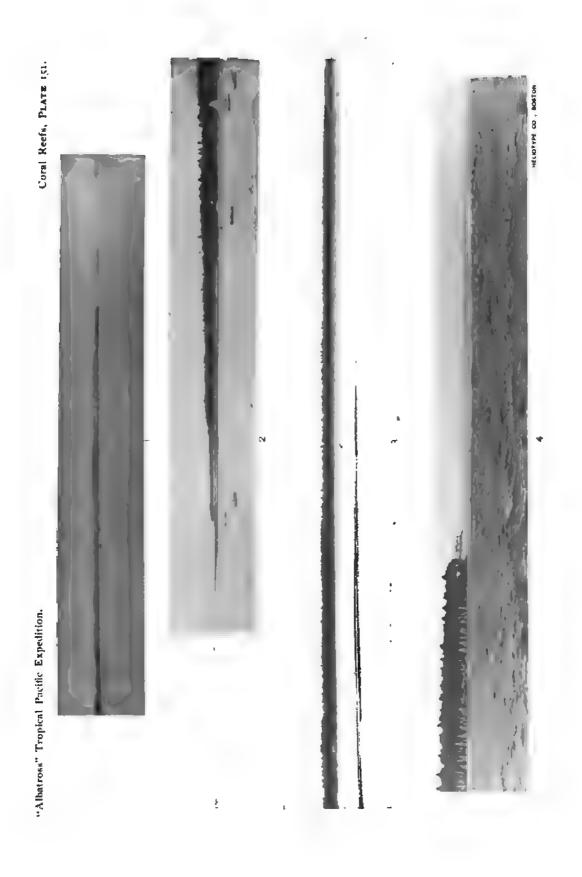




Plate **152**.

PLATE 152.

TARITARI.

- 1. Looking north through the gap (Pl. 151, fig. 4), in the centre of the southeast face of the atoll.
- 2. Islet in the same gap (Keues gap), showing lines of beach rock boulders and slabs, running at right angles to the sea face.
- 3. Bay on the sea face of the land rim to the west of Tanimaiaki village.
- 4. Looking through a narrow gap on the sea face of the land rim of Butaritari Island about one mile west of Tanimaiaki village.

1, 2, 4, W. McM. W.; 3, A. G. M., Phot.



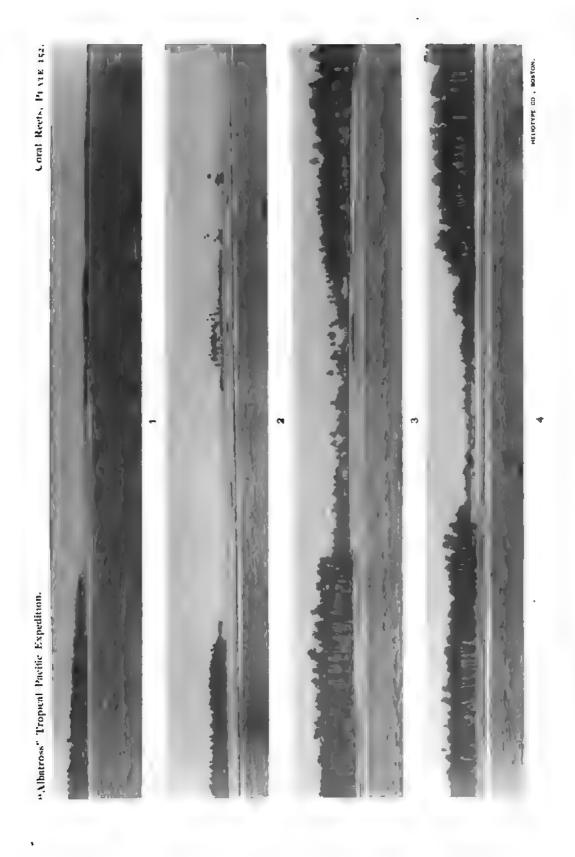




Plate **153**.

PLATE 153.

TARITARI.

- 1. Islands and islets on the flats of Keues gap, covered with coconnut trees, flanked by beach rock boulder beaches, seen from the sea face.
- 2. Other islands in the same gap, seen from the sea face, looking towards Butaritari.
- S_* Islets with beach rock and shingle bars, adjoining the point south of Kenea village. 1-3, A. G. M., Phot.

MELIOTYPE CO., BOSTON

• · • .

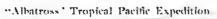
PLATE **154**.

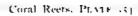
PLATE 154.

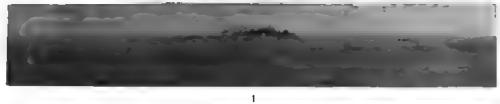
TARITARI.

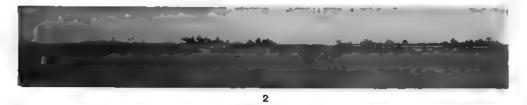
- 1. Entrance islet on the south face of the southwestern passage.
- 2. Sea face of point of Butaritari Island, north of Ukiaññañ village.
- 3. Sea face of the western Pikhat Island, on the northwestern horn of the atoll, showing the passage between it and eastern Pikhat Island.
- 4. Steep boulder beach on the sea face of Butaritari Island, north of Ukiaññañ village.

 1, 3, W. McM. W.; 2, 4, A. G. M., Phot.













		•		•	
•					
•					
	·				
			-		

PLATE **155**.

PLATE 155.

- 1. Sea face of the land rim between the villages of Kuma and Keuca.
- 2. The village of Keuea seen from the lagoon flat, showing the vegetation of the western face of the land rim.
- Wide Millepore lagoon flat off Keuea village, looking in a northwesterly direction.
 1-3, A. G. M., Phot.







Plate **156**.

PLATE 156.

TARITARI.

- 1. On the point south of Keuea village, near the sea face, looking across the gap towards Butaritari.
- 2. On the lagoon beach south of Keuea village, looking across the lagoon opening of Keuea gap towards Tanimaiaki village.

1, 2, A. G. M., Phot.

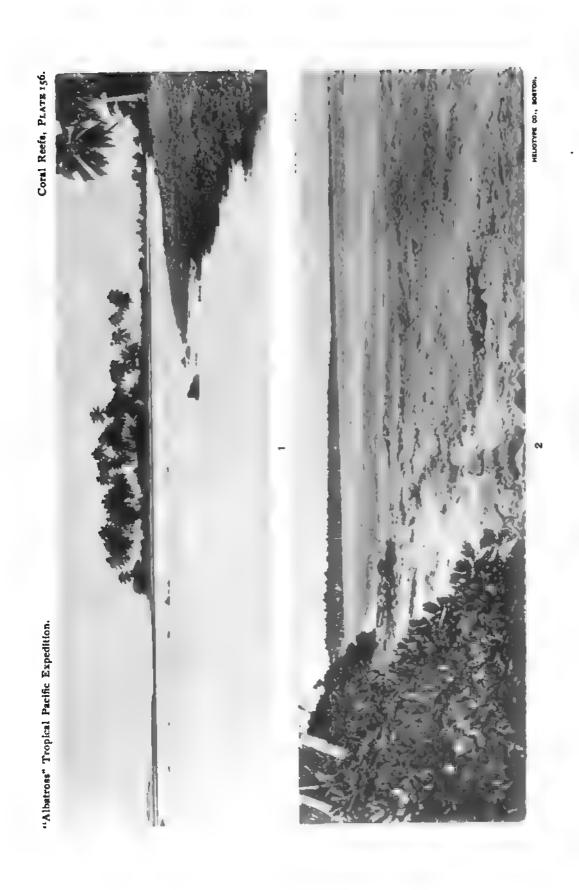




Plate **157**.

•

PLATE 157.

- 1. Eastern edge of the lagoon flat on the north side of Keuea gap.
- 2. Shingle and sand islet on the sea face of a bay east of Keuea village.

 1, 2, A. G. M., Phot.

		•		
		•		
		·		
	•			
	•			
		•		
		•		
	•			
	•			
	•			
	•			
				1
				1
				1
				ı
				ı
, www.				ı
				ı
				ı
J				ı
				ı
· · · · · · · · · · · · · · · · · · ·				ı

PLATE **158**.

PLATE 158.

TARITARI.

- Secondary reef flat platform lagoon formed on the sea face of Keuea gap between the
 flats extending across the gap and the sea wall, coral boulder and beach rock slabs
 dam extending from the northern side of the gap to the eastern horn of the atoll,
 east of Tanimaiaki village.
- 2. Non wall (see Fig. 1), separating the secondary reef flat platform lagoon and the sea face of the gap, seen looking south, the lagoon face on the right, the sea face on the left.

1, 2, A. G. M., Phot.

					'
					•
•					
		•			
			•		
					•
	•				
				•	
	•				

PLATE 159.

PLATE 159.

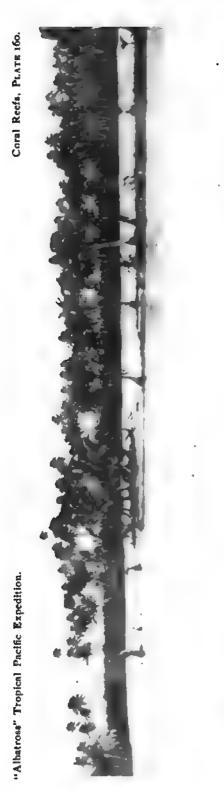
- 1. Lagoon beach and flat to the west of Butaritari.
- Flats on the marshy land west of Butaritari, with bars covered by cocoanut trees and scrub vegetation, on the way from Butaritari to Ukiaññañ village, looking north.
 1, 2, A. G. M., Phot.

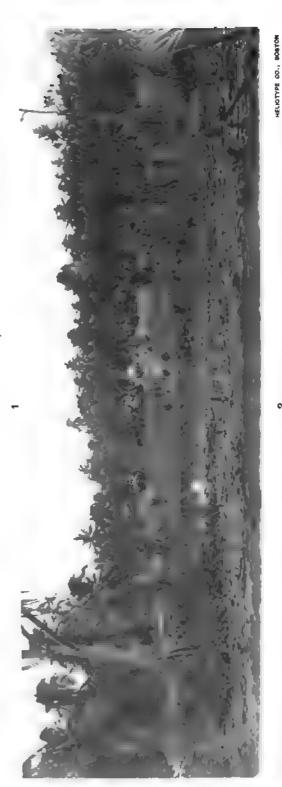


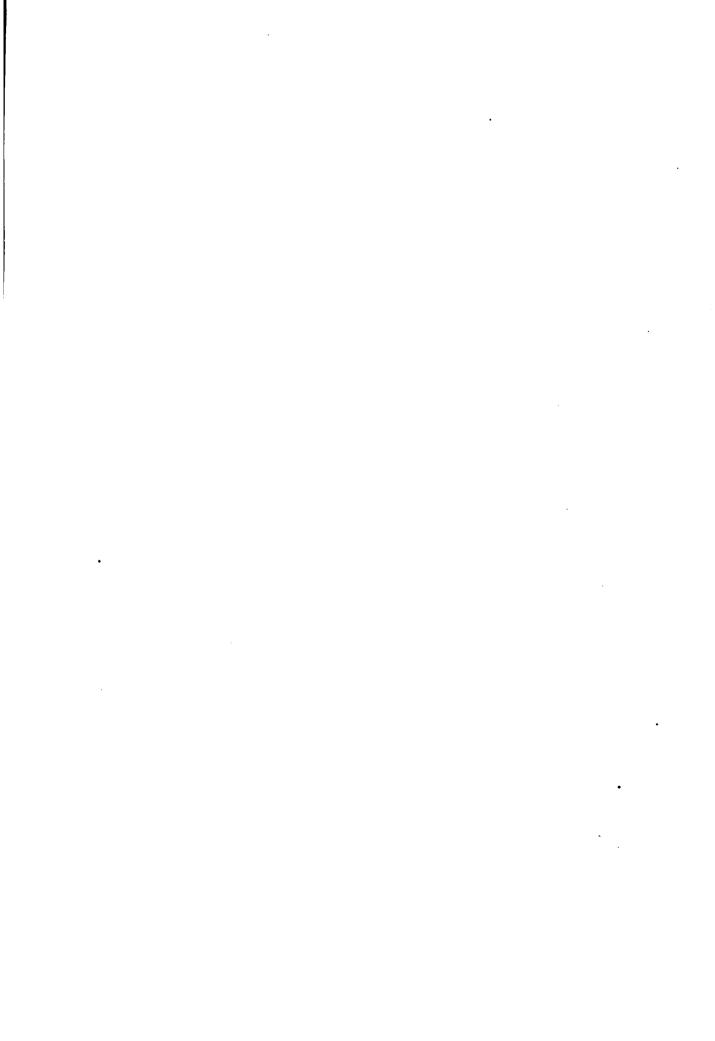
PLATE **160**.

PLATE **160**.

- 1. Bar covered with cocoanut trees, in partly submerged flat, on the western land rim of Butaritari Island on the way to Ukiañŭañ.
- 2. Sink to the west of Butaritari, on the way to Ukiaññañ.







Рьате **160** а.

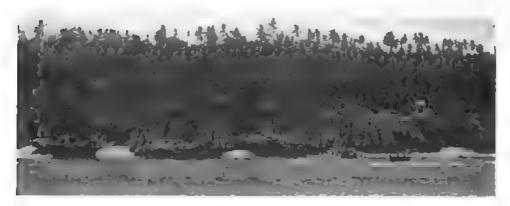
PLATE 160 a.

- 1. Principal canoe passage, Tapriva (Ocean Island), Baanapa; elevated coralliferous limestone buttresses.
- 2. Lagoon, flanked by pitted and honeycombed pinnacles of elevated coralliferous limestone, at northeast end of (Pleasant Island) Nauru.
- 3. Buttresses of elevated coralliferous limestone, Tapriva (Ocean Island), Baanapa.

 1-3 from Photographs by Mr. John Arundel.







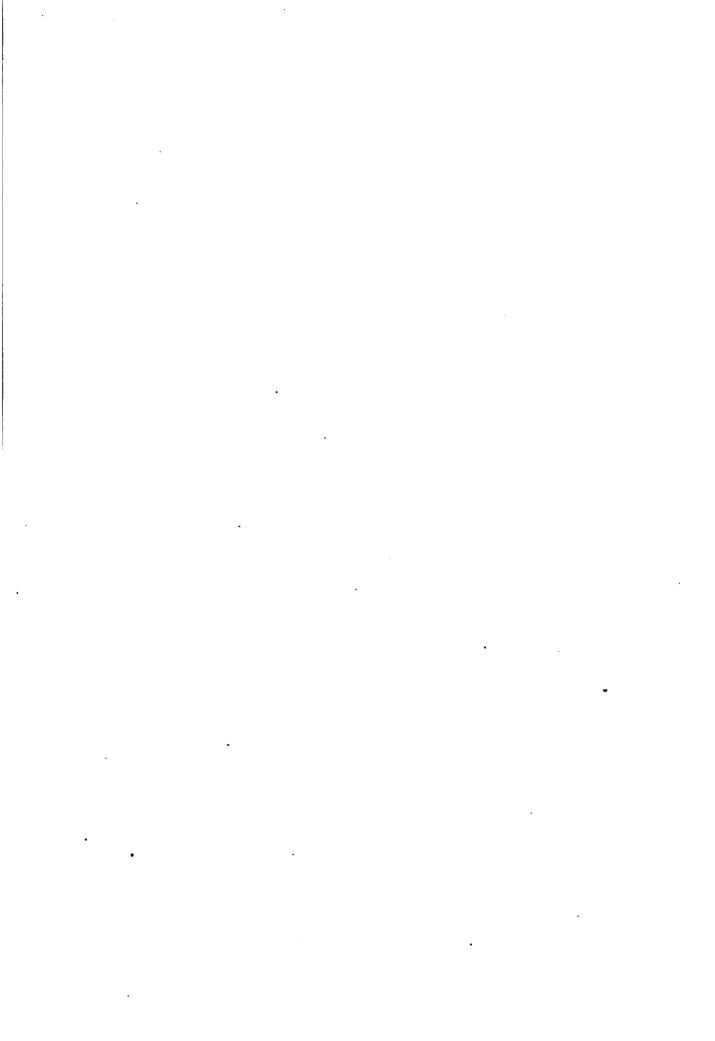


PLATE 160 b.

PLATE 160 b.

(PLEASANT ISLAND) NAURU.

- 1. Lagoon, flanked with pitted and honeycombed pinnacles of elevated coralliferous limestone, near the northeast extremity of the island.
- Sink and surrounding vegetation near Ohlson's station.
 1, 2 from Photographs by Mr. John Arundel.



1



2

		·	
•			
	,		
	′		
	•		

PLATE 161.

PLATE 161.

JALUIT.

- 1. Looking across from our anchorage, over the narrow land rim to the south of Jabor.
- 2. Southeastern passage into the atoll, seen from the sea face.
- 3. Islands and islets on the land rim to the north of the southeast pass, looking north.
- 4. Islands on the north side of the southeast pass, looking north across the lagoon side of the pass.

1-4, W. McM. W., Phot.



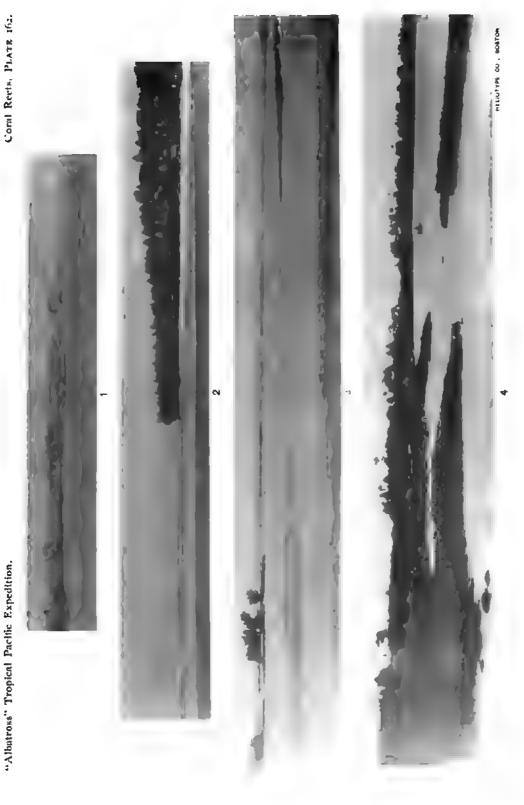
PLATE 162.

PLATE 162.

JALUIT.

- 1. Beach rock bars on the lagoon face of the atoll, about two miles south of Jabor.
- 2. Looking across the northeast pass, along the west coast of Imrodj.
- 3. Beach rock bars and islets on the lagoon face of the atoll, south of the village of Jabor.
- 4. Beach rock flats and bars on the lagoon face south of Jabor.

1, 2, W. McM. W.; 3, 4, A. G. M., Phot.



		•		
•	·			
	•			
	•			
•				
•				
			•	
				•

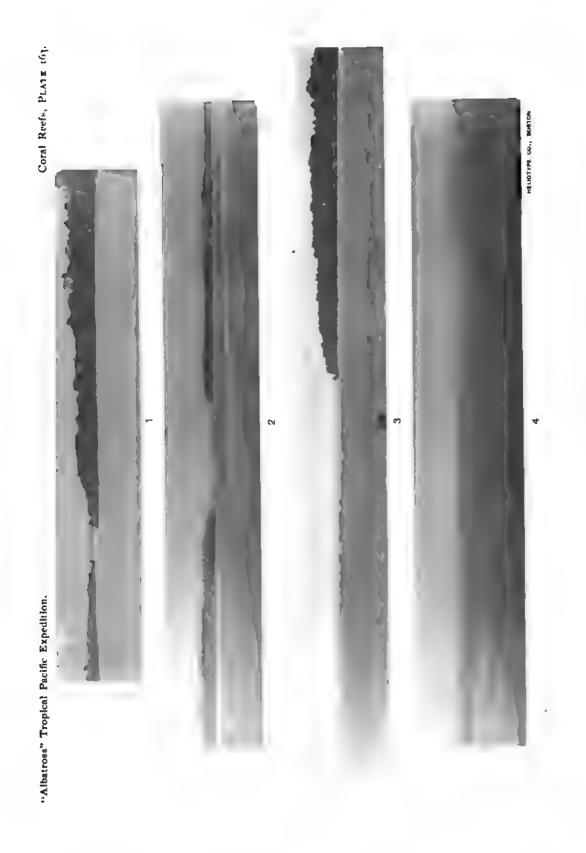
PLATE 163.

PLATE 163.

JALUIT.

- 1. Looking into the southwest pass, between Ai and Medjerrurik, seen from the sea.
- 2. Looking out of the southwest pass from the lagoon side.
- 3. Gap between Medjerrurik and Menga, seen off the southwest face of the atoll.
- 4. Flats in the lagoon near the southwest pass of the atoll.

1, 2, 4, W. McM. W.; 3, A. G. M., Phot.



	•		
·			
•			
_			

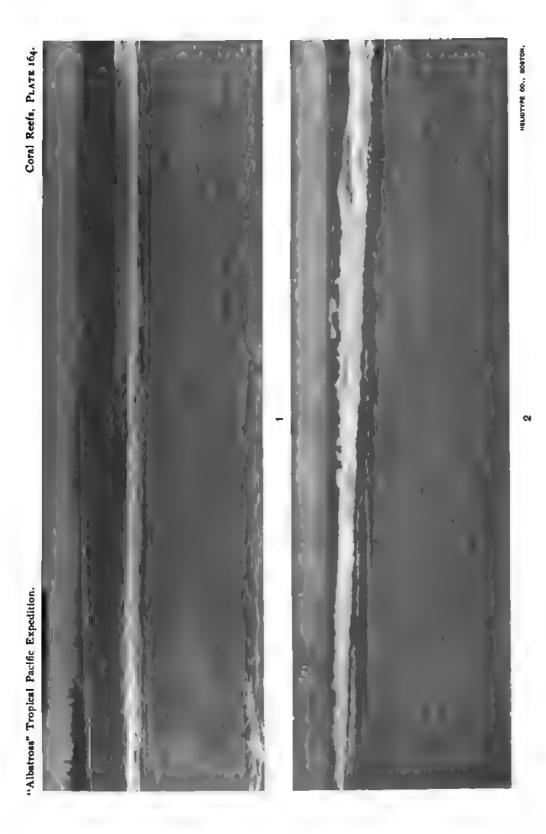
PLATE 164.

PLATE 164.

JALUIT.

- 1. Looking across the southeast pass, from the sea face of the beach, east of Jabor, the reef flat covered by the tide, but still showing the outer edge of Nullipore knolls.
- 2. Reef flat and beach rock bars, on the outer edge of the reef flat platform east of the village of Jabor.

1, 2, A. G. M., Phot.



	•		•
	•		
	•		
	-		
		•	
		·	
		·	
		·	
:	•	·	
:			
•			
	•		
	•		
	•		
	•		
		•	
		•	
		•	
		•	
		•	
		•	
		•	
		•	
		•	
		•	
		•	
		•	
		•	
		•	
		•	
		•	

PLATE 165.

PLATE 165.

JALUIT.

- 1. Sea face of land rim east of Jabor, showing high coarse shingle beach, conglomerate and breccia outliers and reef flat platform, looking south.
- 2. Pot-holes on the reef flat platform, of the same part of the land rim as Fig. 1, seen looking north.

1, 2, A. G. M., Phot.

		•				
				•		
	•					
	•					
			•		•	
•						
	•					

PLATE 166.

PLATE **166**.

JALUIT.

- 1. Sink in the central part of the land rim of Enubor Island: Mrs. Brandeis' Phot.
- 2. Sink to the east of the village of Jabor. A. G. M., Phot.



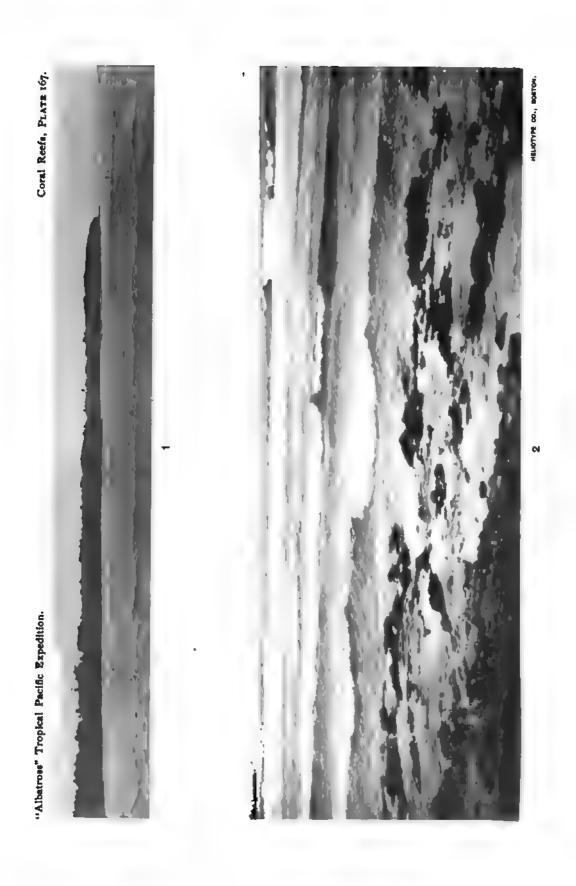
ľ

•			
	•		
		•	
•			
	. •		
•			

Plate **167**.

PLATE 167.

- 1. Southwest point of Nauru, seen from the south.
- 2. Sea face of Jaluit, south of the southeast pass, at high tide. Hütter, Phot.



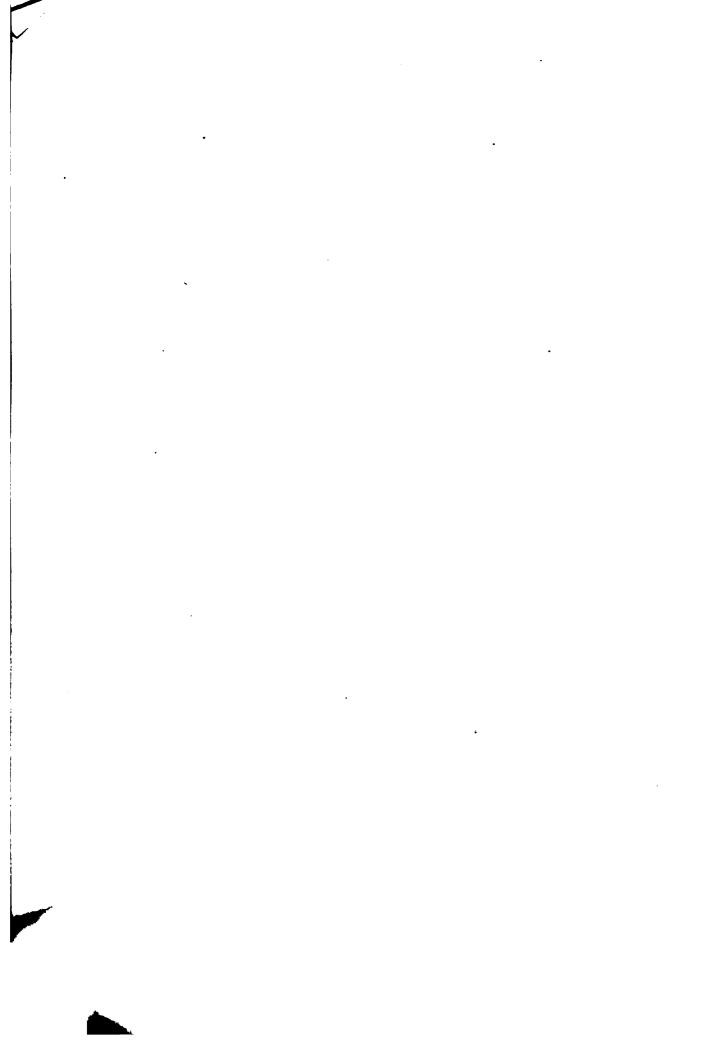
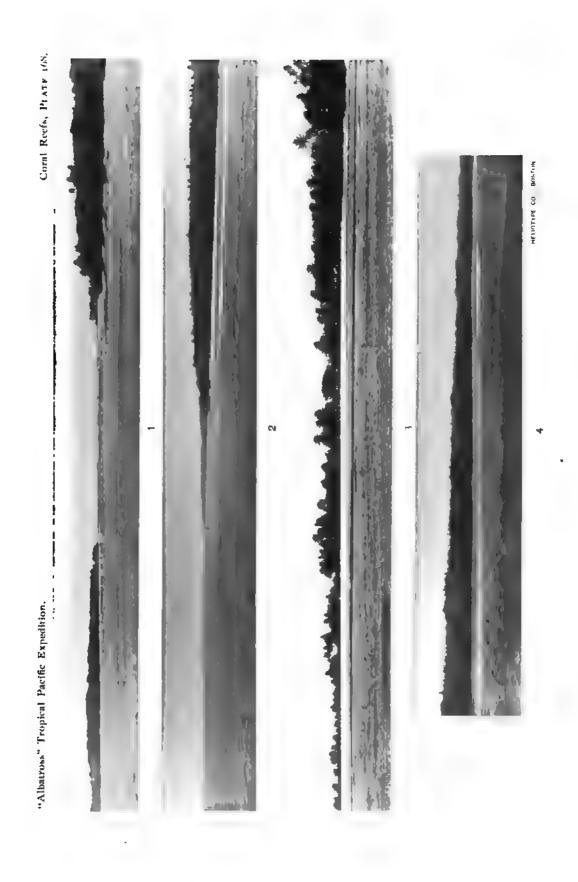




PLATE 168.

AILINGLAP.

- 1. South pass, between Bigatjelang Island on the north and Enüebing Island on the south, seen from the sea.
- 2. Looking northwest along the sea face of the western shore of Bigatjelang Island.
- 3. Sand and shingle beach along the northern extremity of Bigatjelang Island, seen from the sea.
- 4. Airek Island, south face of the land rim of the atoll.
 - 1, 2, 4, W. McM. W.; 3, A. G. M., Phot.



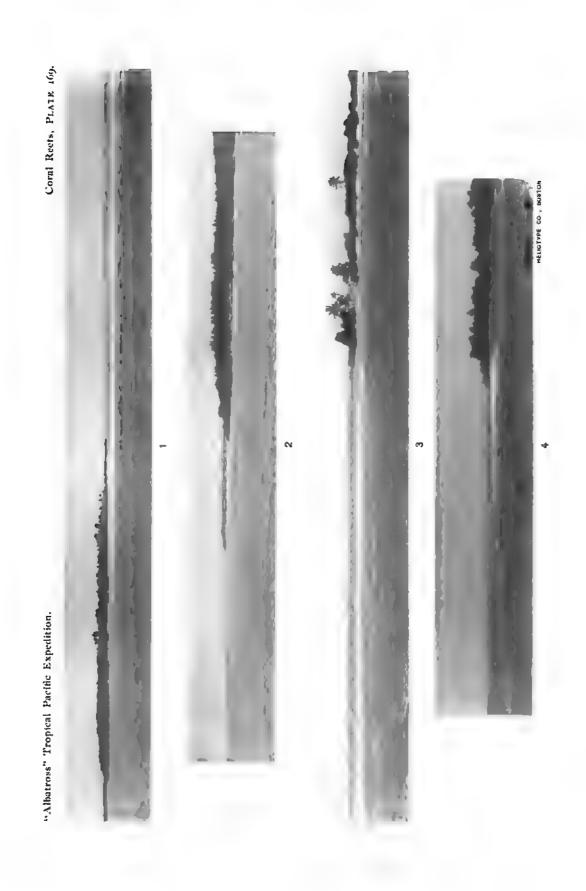
			·	
		* * .		
		•		

PLATE 169.

PLATE 169.

KWAJA:LONG.

- 1. Gehh Island with reef flat to the south, as seen from the west.
- 2. South face of the atoll, looking northwest from the extremity of Enntilabegan Island.
- 3. North end of Jlleginni Island, with sand bars from the lagoon or east side of the land rim, blown from the west face over the reef flat platform; a line of breakers indicates a shoal in the lagoon.
- 4. Island, sand bar, and wide gap on the west face of Kwajalong north of Jlleginni.
 1, 2, 4, W. McM. W.; 3, A. G. M.. Phot.



	·	

PLATE 170.

PLATE 170.

KWAJALONG.

- 1. Island north of Jerr Pass on the west face of the atoll.
- 2. Southern extremity of Jerr Island with submerged reef flat to the southwest face of the atoll.
- 3. Wotje Pass, Wotje Island to the south, Ennumet Island to the north, seen from the
- 4. Submerged reef south of Eru Island, west face of Kwajalong.
 1-3, A. G. M.; 4, W. McM. W., Phot.



	•		

PLATE 171.

PLATE 171.

- 1. Coming up to the northwest horn of Ailinglap from the south, showing the wide reef flat and reef flat platform lagoon; Wotja Island in the distance.
- 2. Reef flat platform, south shore of Rongelappelab Island, looking west, Rongelab.
- 3. Lagoon shore of Rongelappelab Island, looking west, showing beach rock at base of coarse coral sand beach, Rongelab.

1, 2, W. McM. W.; 3, A. G. M., Phot.





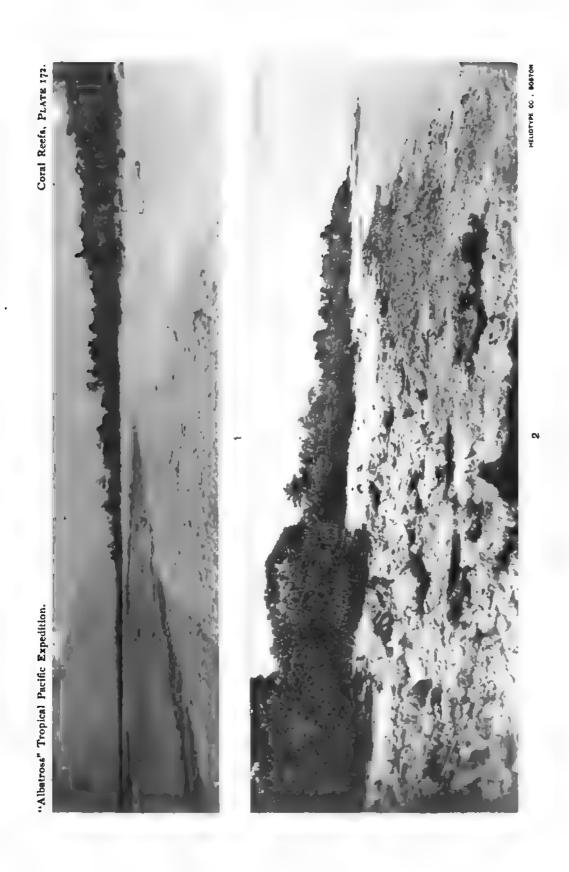
PLATE 172.

PLATE 172.

RONGELAB.

- 1. Sand beach with beach rock and wide reef flat platform on the south shore of Rongelappelab Island, looking west. W. McM. W., Phot.
- 2. Sand beach with beach rock on lagoon face of Rongelappelab Island, looking west, with belt of characteristic Marshall Island vegetation on the summit of the beach.

A. G. M., Phot.



			•	
	•		•	
•		•		
			•	
			•	
			•	
	·		•	
			•	
			•	
			•	
			•	
			•	
			•	

PLATE 173.

PLATE 173.

Vegetation in the central part of Rongelappelab Island, Rongelab, Pandanus, Scævola.

W. McM. W., Phot.



HELIOTYPE CO , 60810%.

	٠				
				•	
.					

PLATE 174.

PLATE 174.

LIKIEB.

- 1. West face of Kapenor Island, west face of the atoll.
- 2. Northern point of island at the southwest horn of the atoll.
- 3. Looking into the lagoon through gap between islands to the west of the South Pass, seen from the south.
- Islet and sand bar to the east of the South Pass, seen from the lagoon side.
 1-4, W. McM. W., Phot.

Ī

	-	
	•	
		1

PLATE 175.

PLATE 175.

LIKIEB.

- 1. Coral sand and shingle beach flanked with beach rock, on the sea face of the atoll looking north.
- Beach rock shore on the lagoon face of the stoll, looking east.
 1, 2, A. G. M., Phot.





HELIOTYPE CO., BOSTON

	·			
			,	
-				
	٠			
		. •		
				-

PLATE 176.

PLATE 176.

Small coral heads and boulders among the bushes and in the vegetation to the rear of the beach on the sea face of Likieb. A. G. M., Phot.

		·	:
			!
•			
	•		

PLATE 177.

PLATE 177.

Dry sinks formed by the connection of lagoon islets, Likieb. A. G. M., Phot.





HELIOTYPE CO., BORTON.

			1
			!
	•		

PLATE 178.

PLATE 178.

Vegetation in the central part of Wotje Island, Wotje, Pandanus, Scævola.

A. G. M., Phot.



HELIOTYPE GO , BOSTON

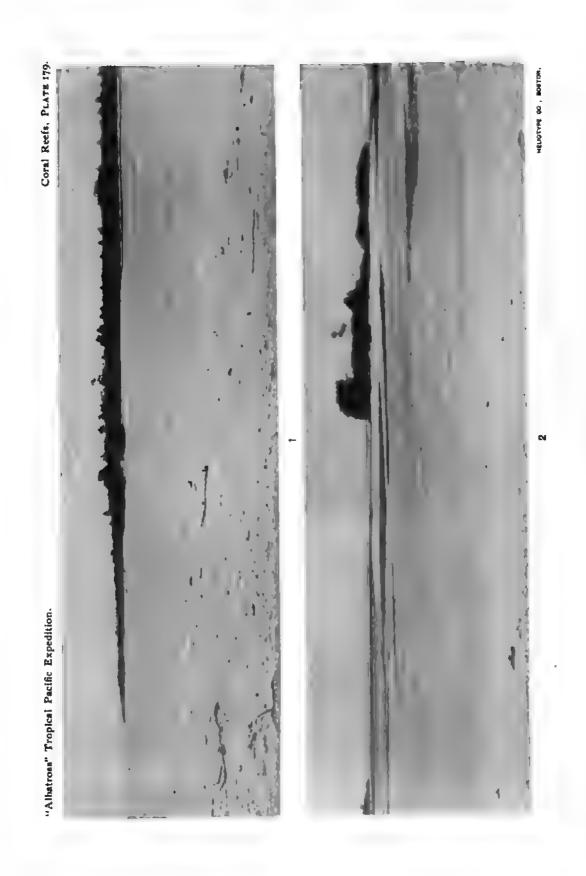
					1
•					
		•			
	,				
				•	

PLATE 178.

PLATE 179.

WOTJE.

- 1. Looking across the wide gap to the north of Wotje Island, at high tide.
- 2. Wide gap and lagoon flat, with islet and shingle bars to the north of Wotje Island.
 1, 2, A. G. M., Phot.



. . . -

PLATE 180.

PLATE 180.

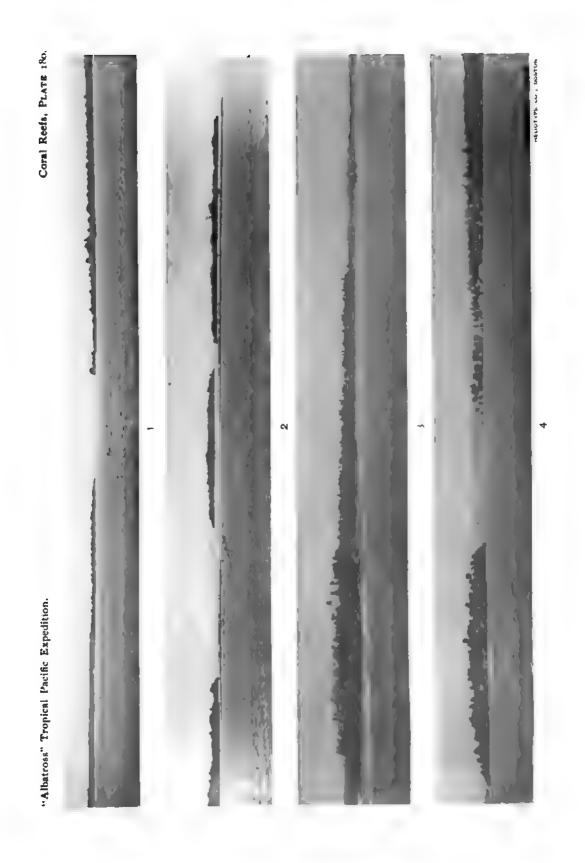
WOTJE.

- 1. Wide gap between the northern extremity of Wotje Island and the island to the north.
- 2. Islands and islets to the west of Schischmarev Pass, seen from the sea.

ARHNO.

- 3. Islands at the base of the northern horn of the atoll, looking west, seen from the sea.
- 4. Looking across the gap between islands to the west of Dodo Pass, to the islands on the northwest face of the atoll.

1-4, W. McM. W., Phot.



• . • • • . . . PLATE **181**.

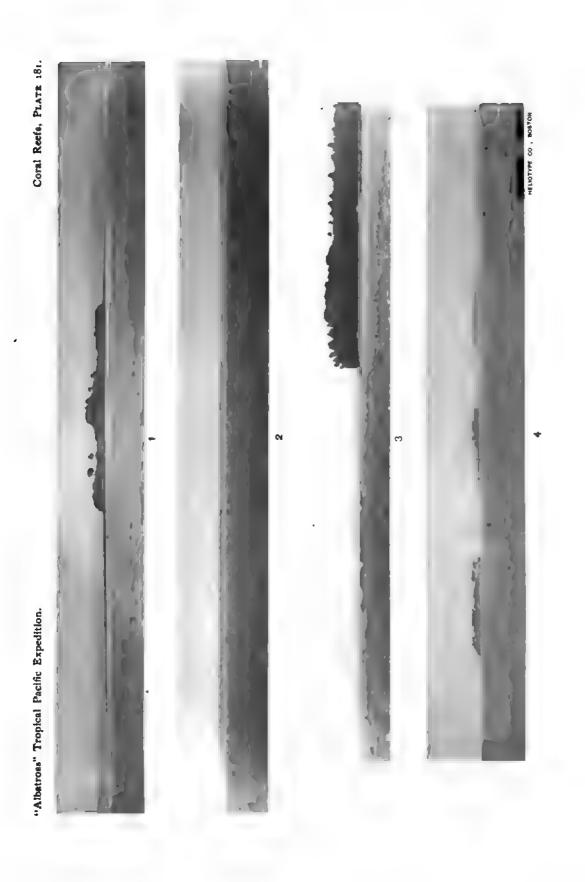
PLATE 181

ARHNO.

- 1. Islet west of Dodo Pass, looking across the lagoon, South Point Island in the distance.
- 2. Distant view of the eastern land rim of the atoll (Terranova), seen from the lagoon side of Dodo Pass.
- 3. Looking northeast into the extension of the lagoon into the eastern spit of the atoll, across the western angle of Terranova, showing the line of islands on the north face of the eastern extension of the lagoon, seen from our anchorage.
- 4. Islands on the north face of the lagoon extension into the eastern spit, seen from our anchorage in the lagoon, off Terranova.

1, 2, 4, W. McM. W.; 3, A. G. M., Phot.





· · · · · . . • • . •

PLATE **180**.

PLATE 182.

ARHNO.

- 1. West face of the northwest point seen from the west, the islands of the east face of the horn in the background.
- 2. West face of the horn, looking across the west flats to the single row of islands nearer the east face of the atoll.
- 3. Ledge on the eastern side of the entrance to Port Lottin, Kusaie.
- 4. Islands on a part of the south face of the atoll of Andema, seen from the southeast;
 Kahalape Island to the right, Paguaiganique to the left.

1, 2, 4, W. McM. W.; 3, A. G. M., Phot.



·		
•		
·		
•	•	
·		

PLATE 183.

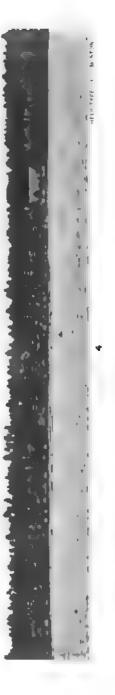
PLATE 183.

1. South point of Pachiai Island, Andema, seen from the south.

PINGELAP.

- 2. Southern part of the west face of Pingelap Island.
- 3. Looking into the lagoon of the atoll from the west across to the gap between Pingelap Island (to the right) and Tugulu Island (to the left) on the northeast face of the atoll.
- 4. Village on the west face of Pingelap Island.

1-4, A. G. M., Phot.



	•		
			•
	,		
		,	
•			
•			

PLATE 184.

PLATE 184.

KUSAIE.

- 1. Vegetation on the lagoon side of the barrier reef near Point Lesson to the west of Port Lottin.
- 2. Vegetation on the east shore of the barrier reef on the west side of Port Lottin at the northern extremity of the harbor.
- 3. Looking northeast from Cape Vauvilliers along the northwest face of Kusaie, Gabert

 ' Island in the distance.

1, 2, A. G. M.; 3, W. McM. W., Phot.



	•			
			•	
	•		•	
		•		
				•

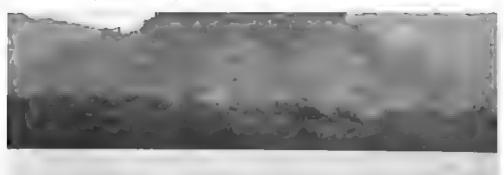
PLATE 185.

PLATE 185.

KUSAIE.

- 1. Fringe of mangroves along the south face of the island to the east of Port Lottin.
- 2. Fringe of mangroves along the south face of the island, looking north from our anchorage.
- 3. Looking west from the entrance to the lagoon channel running south along the base of the island, east of Port Lottin.

1-3, A. G. M., Phot.







		·	
•			

Plate 186.

PLATE 186.

KUSAIE.

Vegetation along the sides of the lagoon channel of the south face of the island, looking east. A. G. M., Phot.



HELIOTYPE OD , BOSTOM.

•			
•			

PLATE 187.

PLATE 187.

KUSAIE.

Boulder of recent reef rock on the reef flat east of Lottin Harbor (about eighteen feet by twelve feet). A. G. M., Phot.

HELIOTYPE GO., BOSTON.

·		-	
		. •	
	•		

Plate **188**.

PLATE 188.

PONAPI.

- 1. Looking north across the mouth of Port Métalanim, Nar Island on the right.
- 2. Looking into Port Métalanim, across the reef connecting Nar and Narcap Islands.
- 3. Barrier reef to the south of Métalanim, Nahanur Island in the centre.
- 4. Barrier reef and flat around Nahanapenlord Island.

1, 2, W. McM. W.; 3, 4, A. G. M., Phot.



		•	
		•	
		•	
		•	
	•		
			•
_	•		

PLATE **189**.

PLATE 189.

PONAPI.

- 1. Panian Islands, seen from the east.
- 2. Nahatik islets, on the barrier reef to the east of Kiti Harbor, seen from the south, looking over the wide reef flat separating them from the mangrove fringe which extends along the south face of Ponapi.
- 3. Mangrove islet at the east horn of the entrance to Kiti Harbor, looking east towards Point Nantiaiti, the Panian Islands in the distance.
- 4. Looking northeast, over the wide reef flat towards Point Nantiaiti, inside the barrier reef, showing the black belt of mangroves fringing the south face of the island; Lucoila Peak on the left.

1-4, A. G. M., Phot.



• . • PLATE 190.

PLATE 190.

PONAPI.

- Looking east from our anchorage in Kiti Harbor towards Point Nantiaiti, Peak Roie
 on the left, the Panian Islands in the centre, the eastern horn of Kiti Harbor
 on the right.
- 2. Looking northwest from our anchorage in Kiti Harbor, along the west face of Ponapi through the gap between Tulatik Island and the southwest point of the island.
- 3. East face of Narlap Island from our anchorage in Kiti Harbor.
- 4. Looking over the extremity of the south island and the south horn of Royalist atoll across to Lauvergne Island.

1, 3, W. McM. W.; 2, 4, A. G. M., Phot.





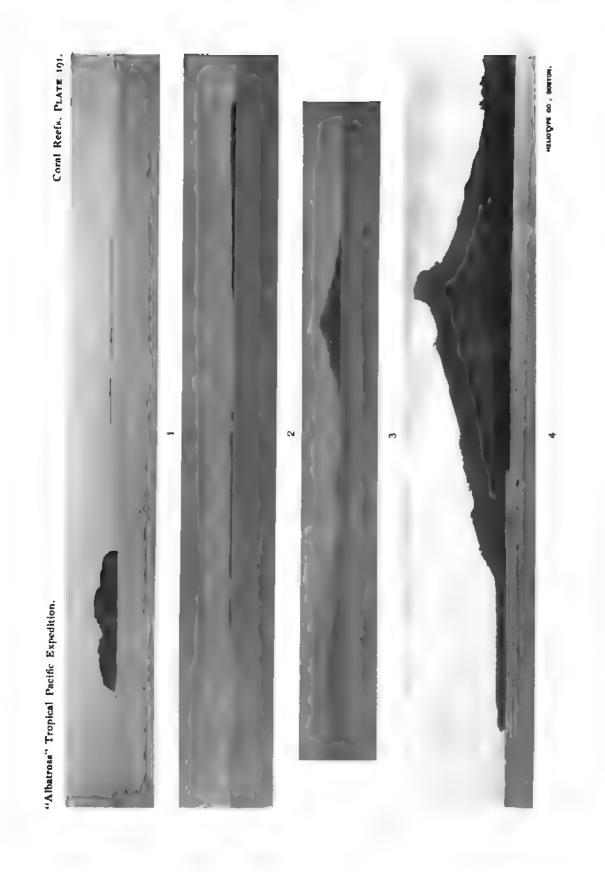
Plate **191**.

PLATE 191.

TRUK.

- 1. Looking north past Faleu Island, on the southern barrier reef into the lagoon of Truk; the island of Peridiak in the distance.
- 2. Islands on the barrier reef of the south face of the atoll, Mesegou to the right, Uijec in the centre, next Udidan, and on the left of Uligar Pass, Fanan Island.
- 3. The eastern group of islands in the lagoon of Truk; the island of Umol to the right, Ruk in the centre, and Tsis to the left.
- 4. Uola seen across the northwest point of Ruk, from the south.

 1, 3, W. McM. W.; 2, 4, A. G. M., Phot.



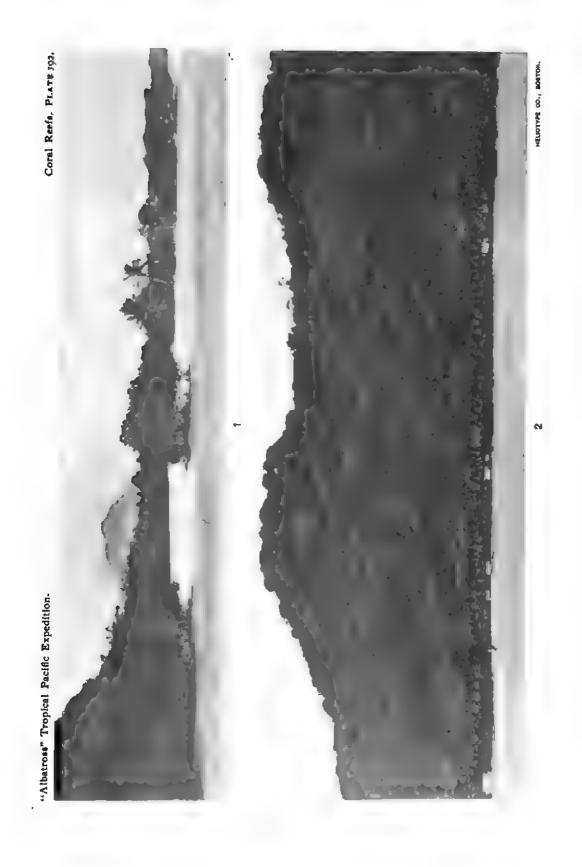
, ·	•		
		•	
		· .	

Plate 192.

PLATE 192.

TRUK.

- 1. Mangrove islets along the southwest face of Uola, near our anchorage.
- 2. Part of the west face of Uola, seen from our anchorage.
 1, 2, A. G. M., Phot.



. •		
•		
	·	
	,	

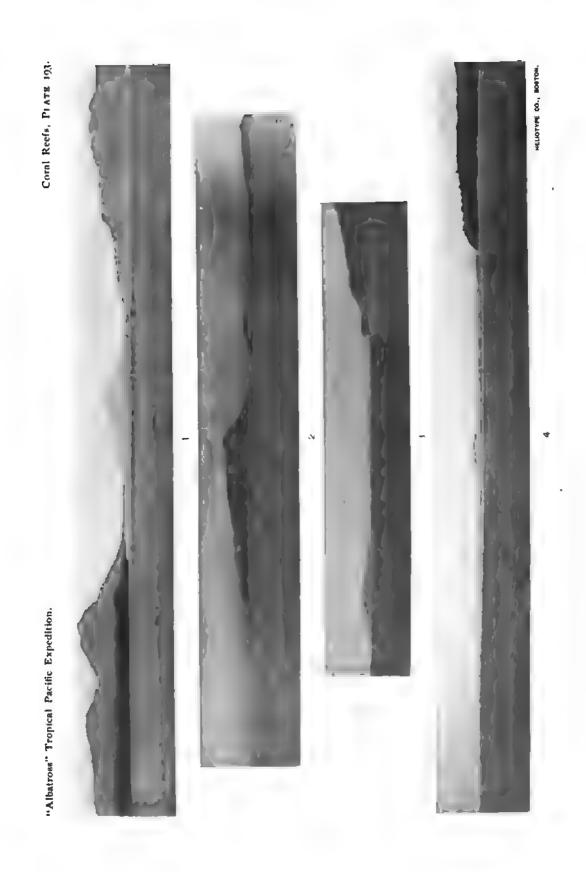
PLATE 193.

PLATE 193.

TRUK.

- 1. Looking south from our anchorage, Ruk on the right, Umol in the centre, Toloas on the left.
- 2. Looking from our anchorage towards the western group of islands in the atoll, Udot to the left, with the peaks of Tol towards the right.
- 3. Looking across the north end of Uola, towards Gregoire Island (on the left).
- 4. North end of Pis Island, seen going out of the pass, looking across the horn of the barrier reef towards the island to the east of Pis.

1, 3, 4, W. McM. W.; 2, A. G. M., Phot.



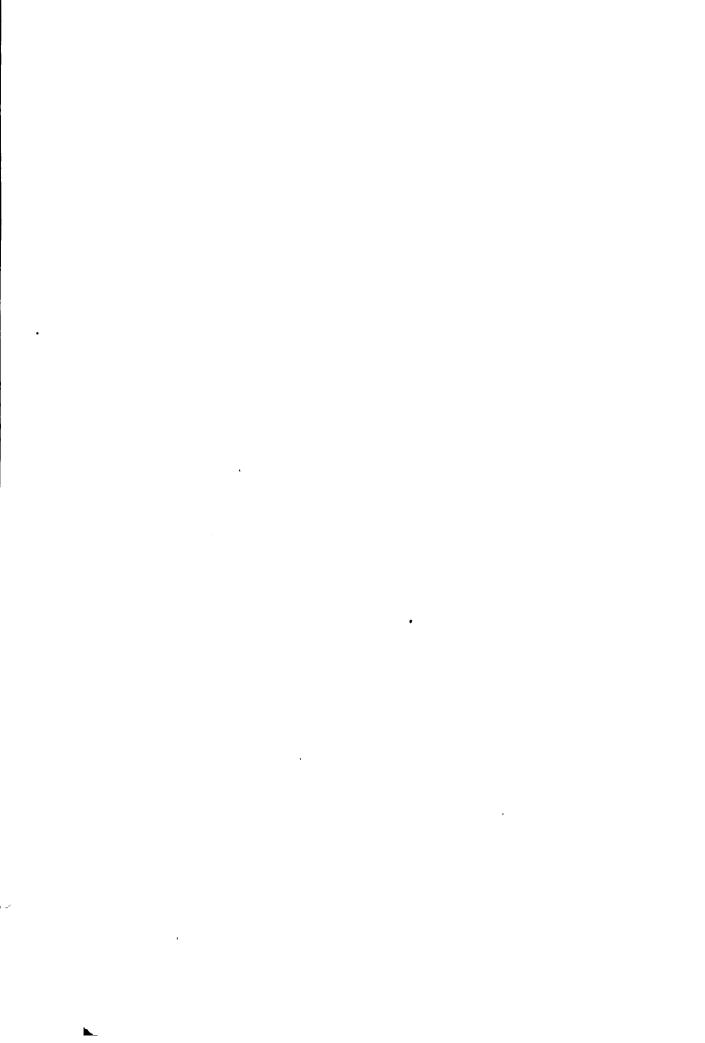


PLATE 194.

PLATE 194.

GUAM.

- 1. Patay Point, east face of the island from the southeast.
- 2. Looking north from Punta de los Amantes, towards Point Ritidian, west face of the island.
- 3. Junction of the volcanic outburst with the elevated coralliferous limestone belt, west face of the island, near Agaña.

1, W. McM. W.; 2, 3, A. G. M., Phot.





Plate 195.

PLATE 195.

GUAM.

- 1. Looking over Luminan barrier reef, on the north face of the harbor of San Luis d'Apra, Cabras Island on the right. Point Ritidian in the distance.
- 2. Looking south from our anchorage in the harbor of San Luis d'Apra, over Oroté
 Peninsula, towards the southern volcanic range of Guam.
- 3. Elevated coralliferous limestone bluffs at the western extremity of Oroté Point, the volcanie bluffs of Point Facpi in the distance.

1, 2, W. McM. W.; 3, A. G. M., Phot.





PLATE 196.

PLATE 196.

GUAM.

Erocled elevated coralliferous limestone on the southern face of Cabras Island, with a clump of Cycads. A. G. M., Phot.

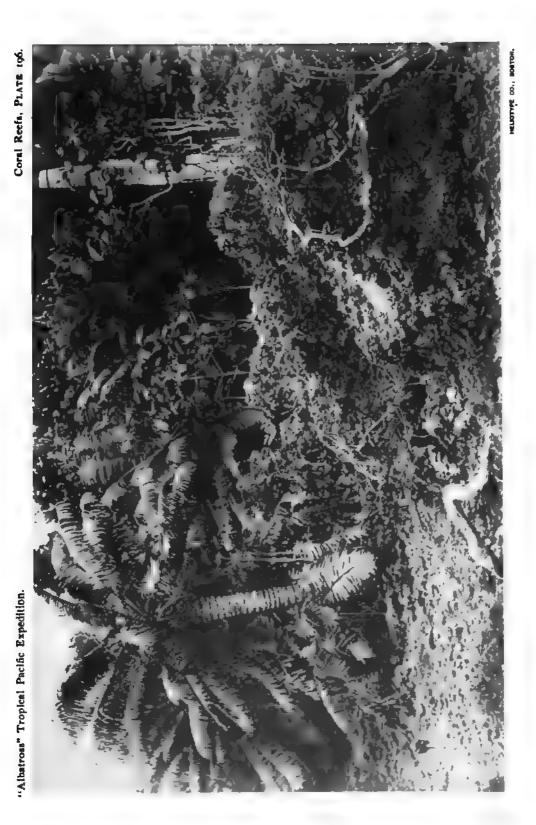




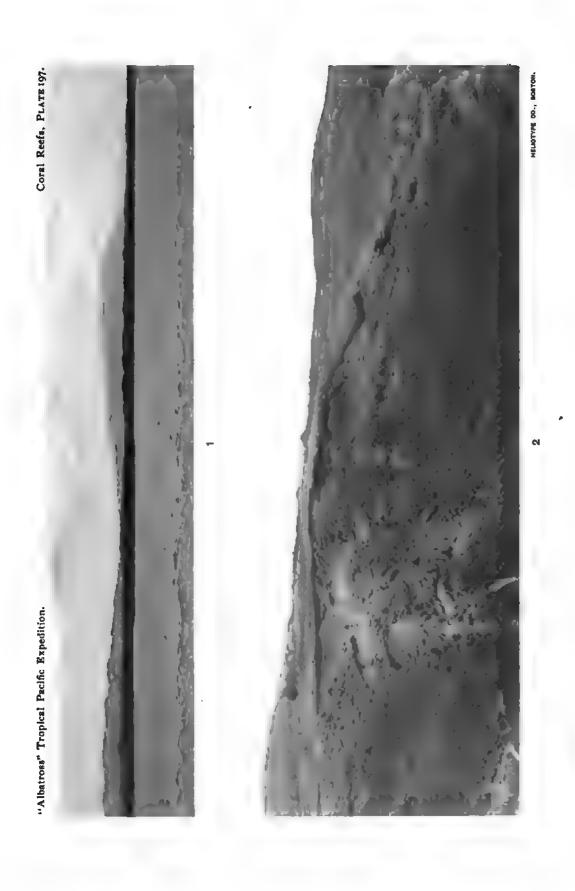
Plate **197**.

PLATE 197.

GUAM.

- 1. Looking over the eastern extension of Oroté Peninsula towards the southern volcanic hills of Guam.
- 2 Volcanic hills to the east of Agaña.

1, 2, A. G. M., Phot.



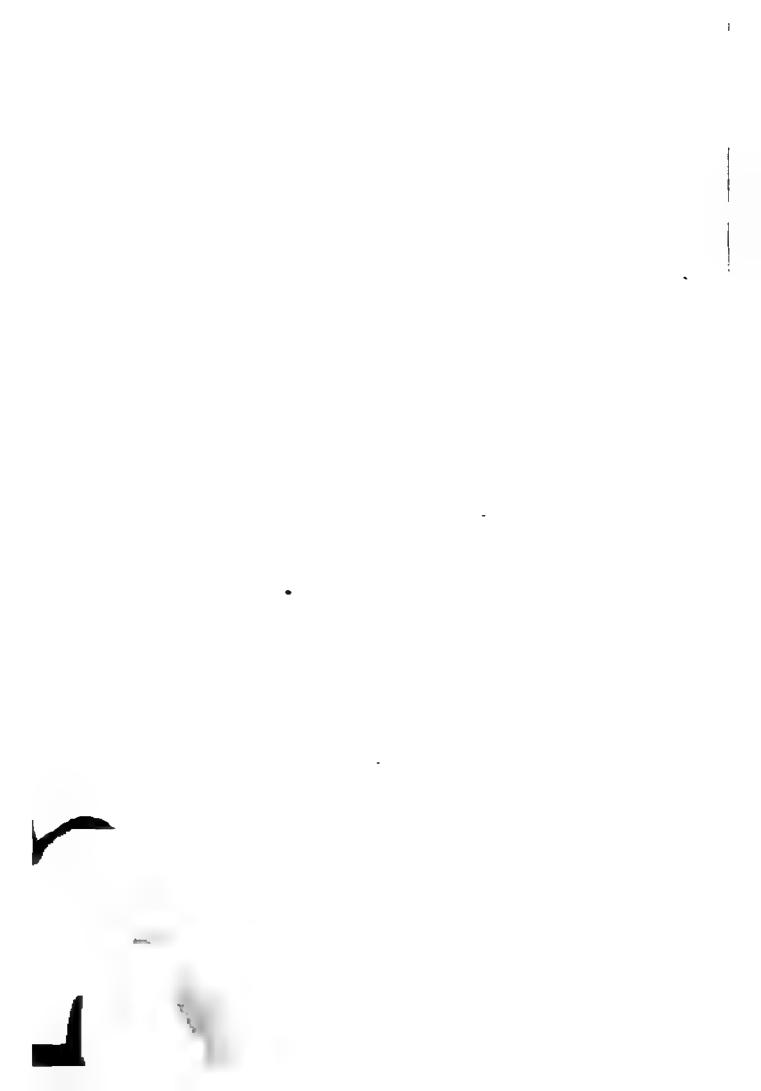


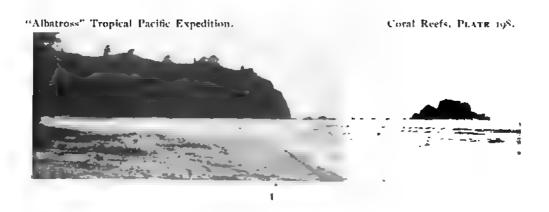
PLATE 198.

PLATE 198.

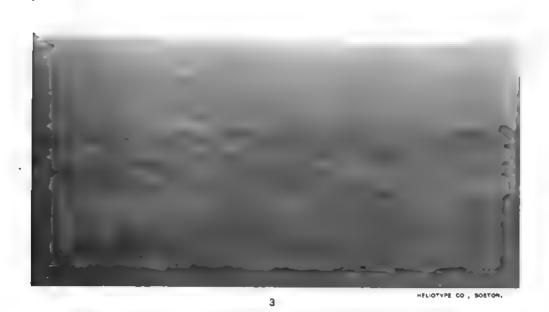
GUAM.

- 1. Volcanic bluff at Point Facpi; the islet to the right is an outlier of elevated coralliferous limestone, southwest face of Guam.
- Looking south from Point Facpi, southwest coast of Guam; in the distance sharp volcanic hills, rounded ridge of elevated coralliferous limestone, with blocks and outliers of the same on the shore.
- Looking over the mesa of Guam towards Mount Santa Rosa from the hill above Agaña.

1-3, A. G. M., Phot.







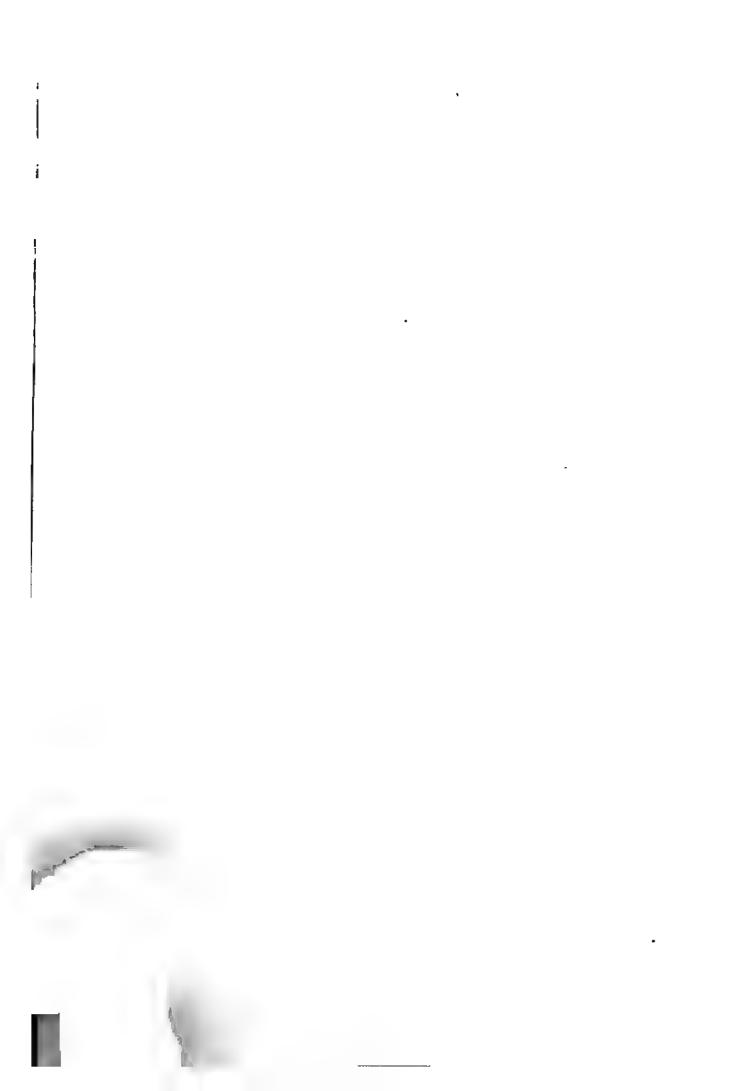
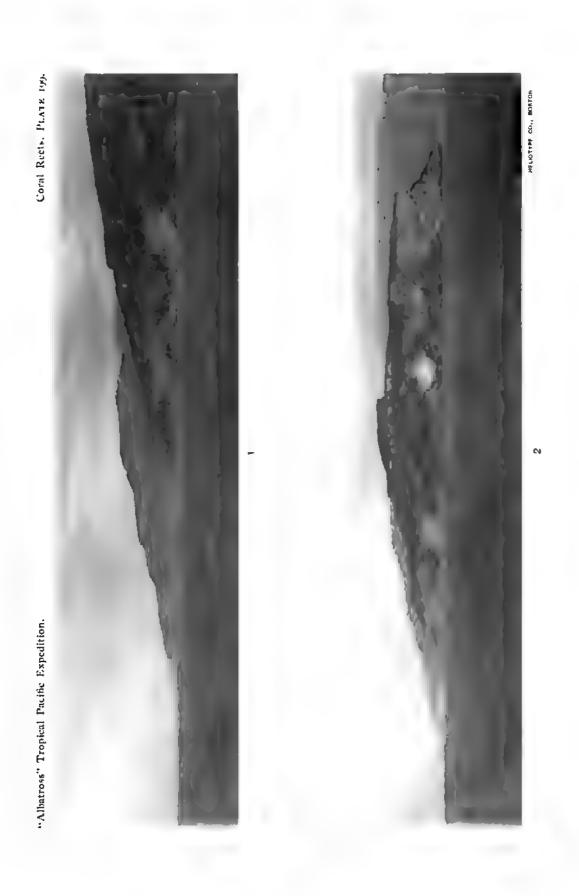


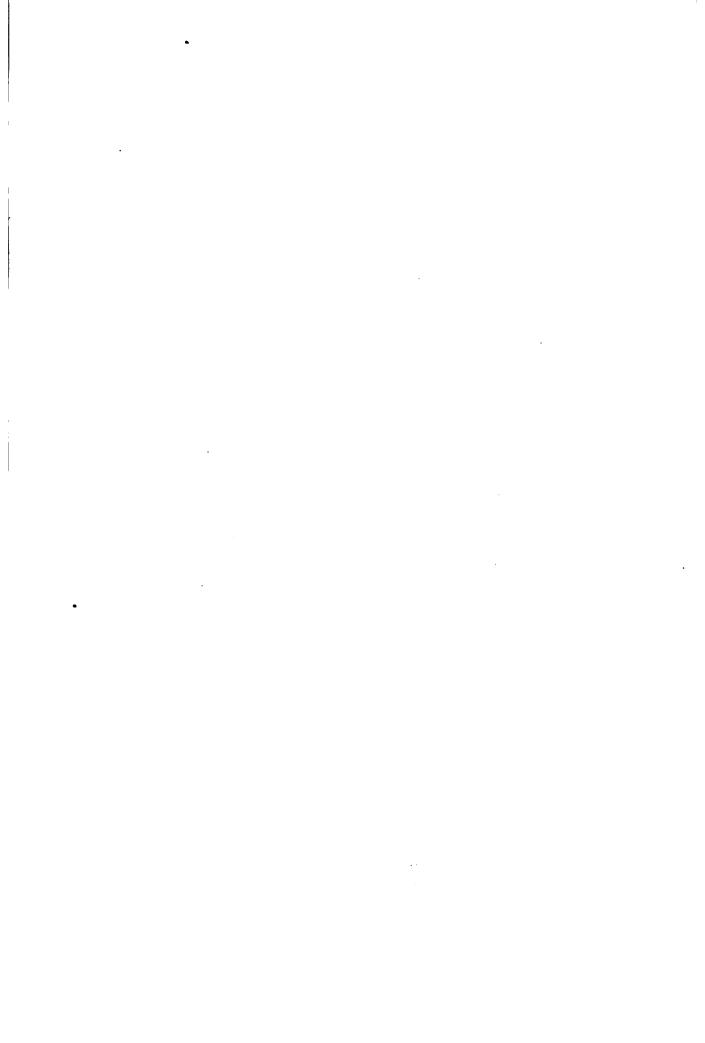
PLATE 199.

PLATE 199.

ROTA.

- 1. The west face of the island and its terraces, seen from off Point Taipingon.
- 2. Showing the terraces of the southwest face of the island, looking across Sosanlagh Bay.
 1, 2, W. McM. W., Phot.





Je Branner

MEMOIRS

OF THE

MUSEUM OF COMPARATIVE ZOÖLOGY

ΑT

HARVARD COLLEGE.

VOL. XXVIII.

PLATES.

III.

CAMBRIDGE, U.S.A.
PRINTED FOR THE MUSEUM.
1903.

University Press:

John Wilson and Son, Cambridge, U.S.A.

CONTENTS.

REPORTS ON THE SCIENTIFIC RESULTS OF THE EXPEDITION TO THE TROPICAL PACIFIC, in charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," from August, 1899, to March, 1900, Commander Jefferson F. Moser, U. S. N., Commanding. IV. The Coral Reefs of the Tropical Pacific. By Alexander Agassiz. pp. xxxiii., 410. 238 Plates. February, 1903.

ONE VOLUME TEXT. THREE VOLUMES PLATES.



Memoirs of the Museum of Comparative Zoölogy AT HARVARD COLLEGE.

Vol. XXVIII.

REPORTS ON THE SCIENTIFIC RESULTS OF THE EXPEDITION TO THE TROPICAL PACIFIC, IN CHARGE OF ALEXANDER AGASSIZ, BY THE U. S. FISH COMMISSION STEAMER "ALBATROSS," FROM AUGUST, 1899, TO MARCH, 1900, COMMANDER JEFFERSON F. MOSER, U. S. N., COMMANDING.

IV.

THE CORAL REEFS

OF THE

TROPICAL PACIFIC.

By ALEXANDER AGASSIZ.

III. - PLATES 200 TO 236.

CHARTS AND TWO COLORED PLATES.

[Published by permission of George M. Bowers, U. S. Commissioner of Fish and Fisheries.]

CAMBRIDGE, U.S.A.:
Printed for the Museum.
February, 1903.

PLATE **200**.

PLATE **200**. Track of the "Albatross" through the Marquesas, reduced from Admiralty Chart 1640.

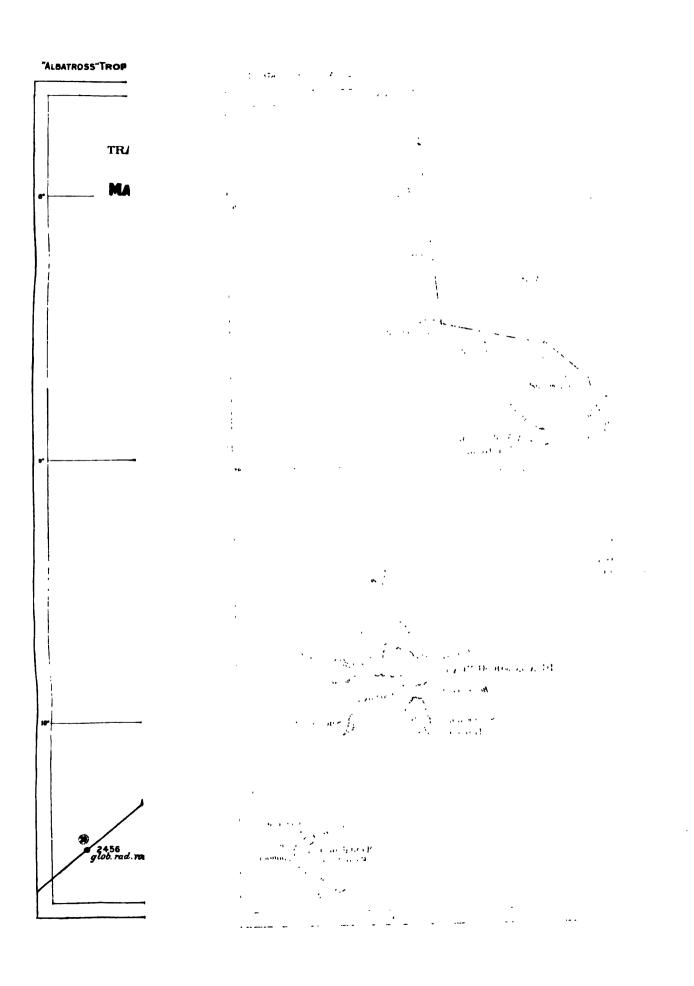
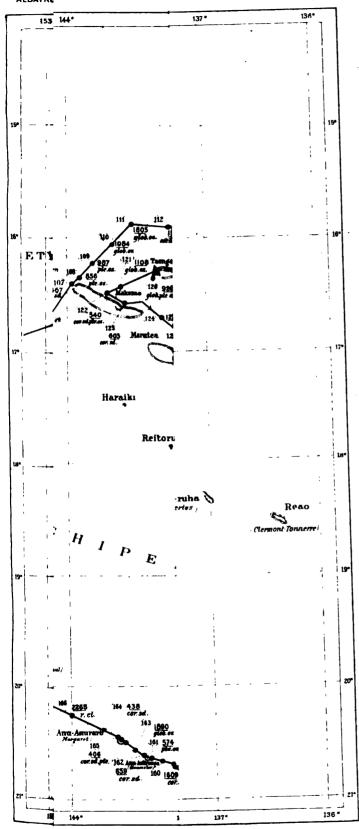




PLATE **201**.

PLATE 201.

Track of the "Albatross" through the Paumotus and Society Islands.



Tra

PLATE 202.

PLATE 202.

The western Paumotus and the Society Islands, from A. Chart 767.

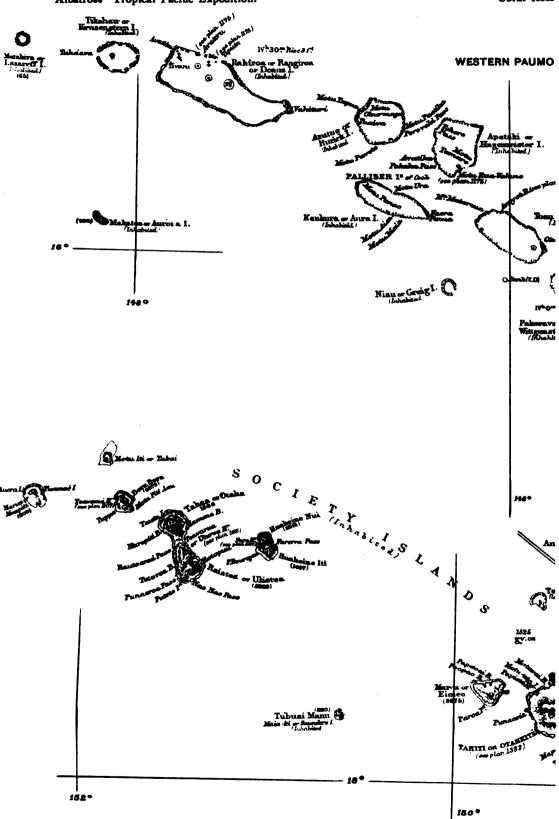


PLATE 203.

The eastern Paumotus as far as Pinaki, including the Duke of Gloucester Islands, from A. Chart 767.



ASTERN PAUMOTUS

MAlaiski or Throne. Op.

Constitution I.



·			
	·		
		•	
·			
		•	
·			

PLATE 204.

PLATE 204.

THE PAUMOTUS.

- 1. Fakarava, from A. Chart 767, and corrected by officers of the "Albatross," scale twelve miles to the inch.
- 2. Fakaina, from a sketch by Captain Garnier, scale three miles to the inch.
- 3. Tiputa Pass, Rangiroa, from H. O. Chart 75, scale three fourths of a mile to the inch.
- 4. Rangiroa, Tikahau, and Matahiva, from H. O. Chart 75, and corrections by officers of the "Albatross," scale twenty miles to the inch.
- 5. Strait between Marokau and Ravahere, from H. O. Chart 79, scale nine miles to the inch.
- 6. Northeast pass into Makemo, from surveys by officers of the "Albatross," scale one third of a mile to the inch.
- 7. Northwest face of Fakarava, from A. Chart 1175, scale two miles to the inch.

TALBATRO CORAL REEFS PLATE 204

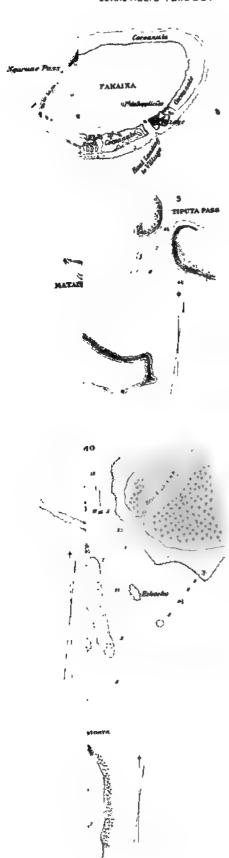
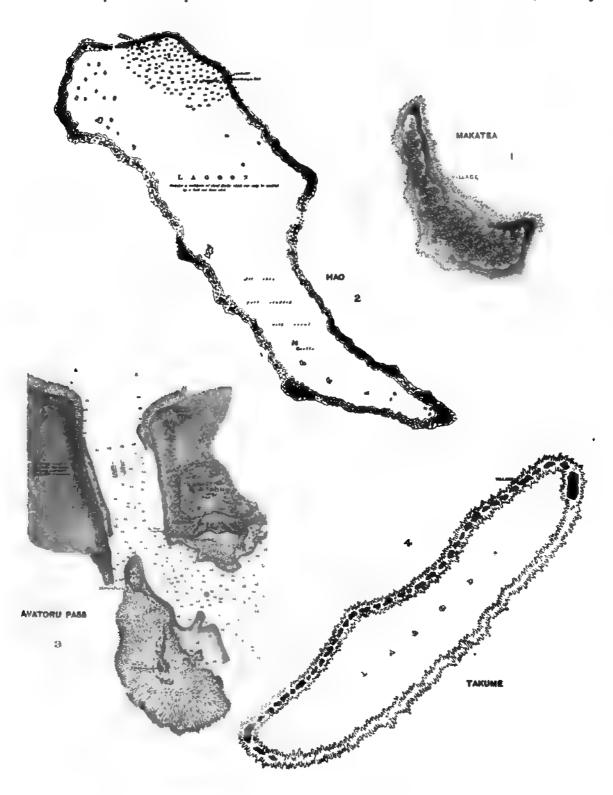


PLATE 205.

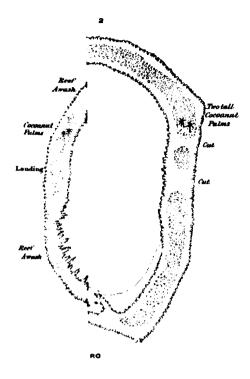
- H. O. Chart 83, scale two miles to the inch.
 - $_{\rm off}$ A. Chart 1111, scale six miles to the inch.
- Chart 960, scale two miles to the inch.
- from H. O. Chart 83, scale three miles to the inch.



. * • • • PLATE **206**.

PLATE 206.

- 1. Anu-Anurunga, scale one mile to the inch.
- 2. Anu-Anuraro, scale one mile to the inch.
- 3. Pinaki, scale one mile to the inch.
- 4. Nukutipipi, scale one fourth of a mile to the inch.
 - 1, 2, 4, from sketches by H. C. Fassett; 3, from a sketch by C. H. Townsend.



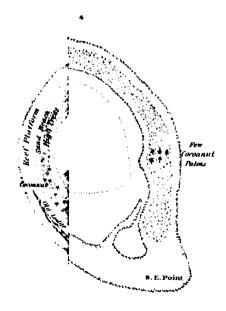
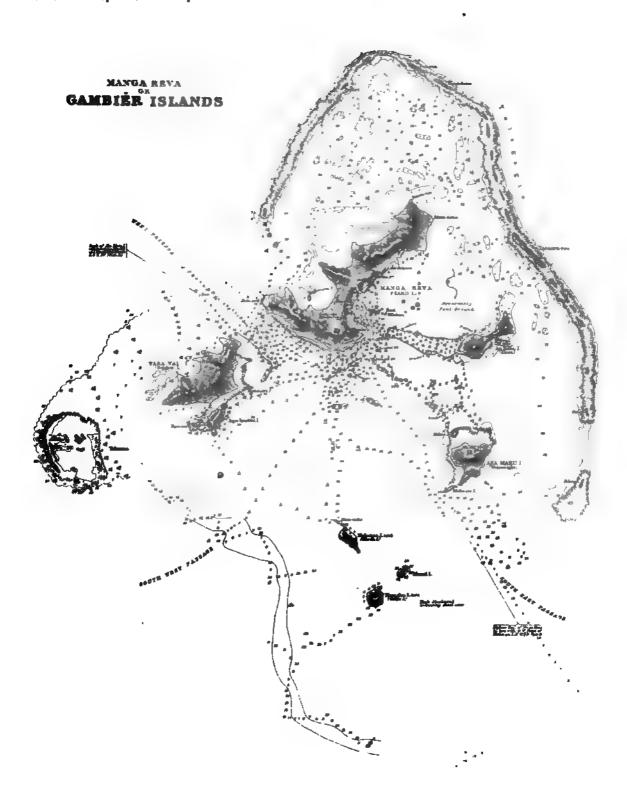


PLATE 207.

The Gambier Islands, from A. Chart 1112, scale two miles to the inch.



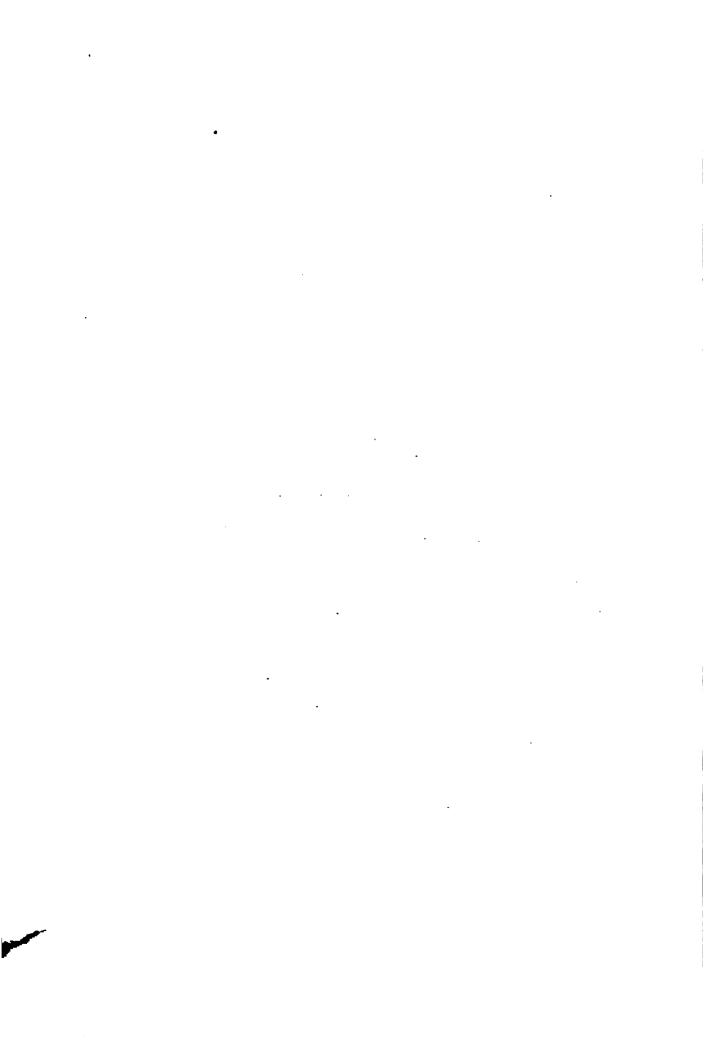


PLATE 208.

PLATE 208.

- 1. Taiarapu Peninsula (Tahiti), with its surrounding fringing reefs.
- 2. Fringing reefs of the east side of Tahiti, from Taravao Bay to Artémise Bank.
- 3. The fringing and barrier reefs of the south shore of Tahitt, from Popote Bay to the Isthmus of Taravao.
- 4. The fringing and barrier reefs of the southwest part of Tahiti, from Paca to West Ava-iti.
- 5. The fringing and barrier reefs from Papieté Pass to north of Acua.
- 6. Murea, with its fringing and barrier reefs. All figures reduced from A. Chart 1382, scale three miles to the inch.

"Albatross" Tropical Pacific Expedition. Coral Reefs, PLATE 208. SECT. OF TAHITI 6 SECT. OF TAHITI BECT. OF TAHITI

•		
		-

PLATE 209.

PLATE 209.

Northwest shore of Taliti, from Point Venus to Papieté Pass, from A. Chart 1382, scale two miles to the inch.



Nort!

PLATE **210**.

PLATE 210.

- 1. Husheine, scale two miles to the inch.
- 2. Raiatea and Tahaa, scale three miles to the inch.
- 3. Bora Bora, scale two miles to the inch.
- 4. Maupiti, scale three miles to the inch.

1-4 from A. Chart 1060.

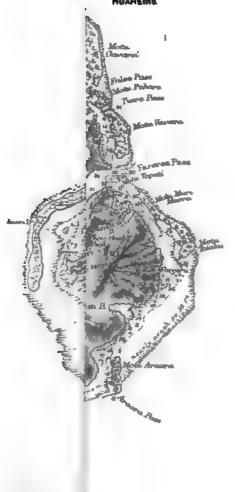
"Albatross" Tropics

Coral Reefs, PLATE 210.

-

Sorra BORA





Ż

PLATE 211.

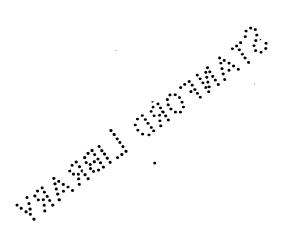


PLATE **211**.

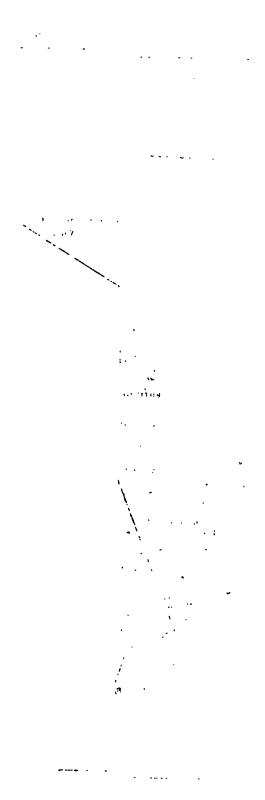
Track of "Albatross" from the Society Islands to Niue.



PLATE **213**.

PLATE **213**.

Track of the "Albatross," Niue to Fiji.



はからものが、このは からは KIDD から、監察できまから知らない。 KID Sendarion

PLATE 214.

PLATE **214**.

The Tonga Archipelago, from A. Chart 2421.

207.____

Th

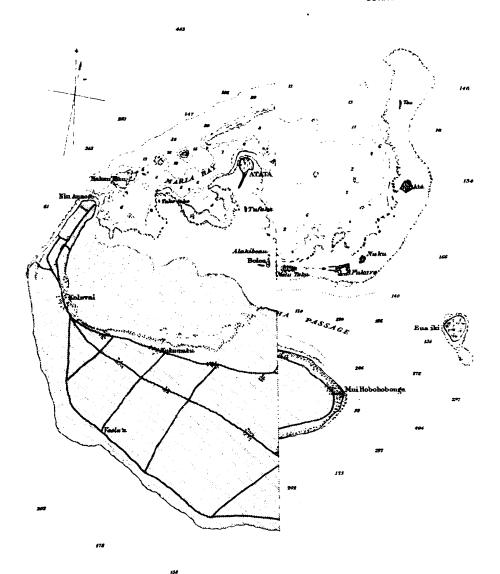
PLATE **215**.

PLATE **215**.

Tongatábu, from A. Chart 2363, scale five miles to the inch.

"ALBATROSS"TROPICAL PACIFIC EX.

CORAL REEFS PLATE 215.



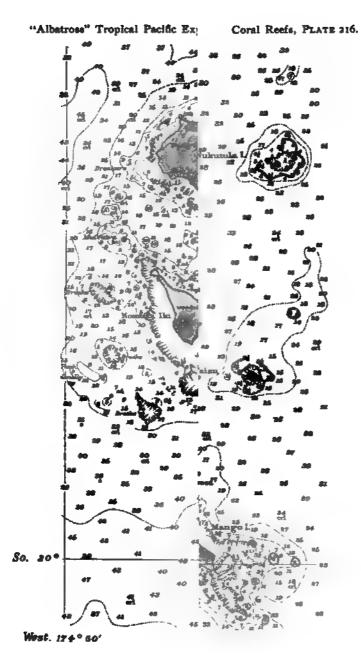
TDNCATÁBU ISLAND

SOUNDINGS IN FATHOMS

PLATE 216.

PLATE **216**.

Nomuka group, from A. Chart 471, scale one and one-fourth miles to the inch.



-- - •

. .

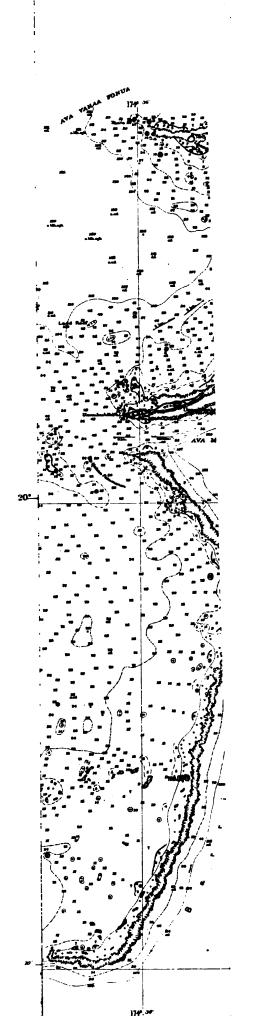
.

· ·

PLATE 217.

PLATE 217.

. Haapai group, southern part, from A. Chart 3100.



. . . .

. .

PLATE **220**.

PLATE **220**.

The Fiji Islands, from A. Chart 2691.



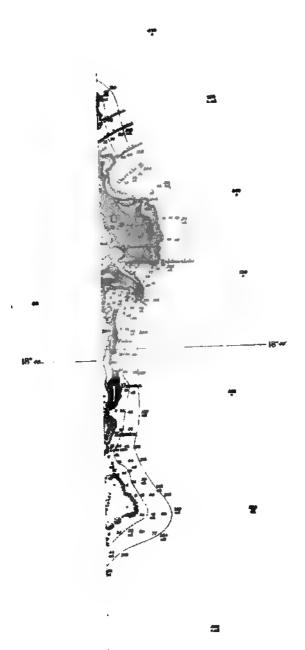
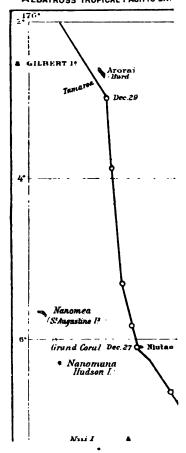


PLATE **221**.

PLATE **221**.

Track of the "Albatross," from the Fiji Islands through the Ellice group.

ALBATROSS"TROPICAL PACIFIC EX.



Track of the "Albatre

PLATE 222.

PLATE 222.

Funafuti, from A. Chart 2983, scale one and one-half miles to the inch.

PLATE 223

Track of the "Albatross" through the Gilbert Islands.

ALBATROSS"TROPICAL PA

208 2486 glob.as.

Apainty

Cook 200-95 bro.sk.

Maia

1721

PLATE **225**.

... the "Albatross" through the Marshall Islands and to Ponapi (Carolines).

R;



PLATE 226.

PLATE 226.

- 1. Tapeteuea, from H. O. Chart 120, scale four miles to the inch.
- 2. Apamama, from A. Chart 731, scale four miles to the inch.
- 3. Peru, from H. O. Chart 497, scale four miles to the inch.
- 4. Jemo, from German Hydrog. Bureau, No. 113; scale eight miles to the inch.
- 5. Ailinglap, scale eight miles to the inch.
- 6. Jaluit, scale seven miles to the inch.
- 7. Lib. scale eight miles to the inch.
- 8. Rongelab, scale ten miles to the inch.
- 9. Lai. scale five miles to the inch.
- 10. Namorik, scale eight miles to the inch.

5-10 from German Hydrog. Bureau, No. 113.

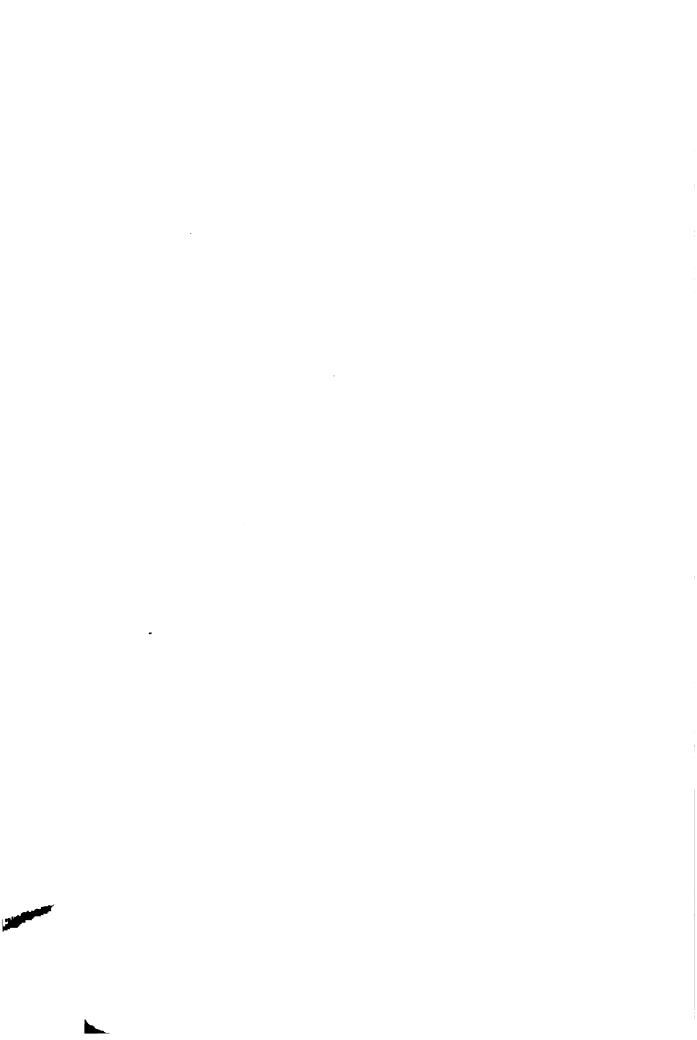
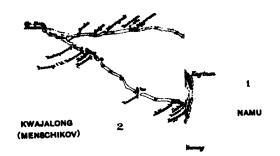


PLATE 227.

PLATE 227.

- 1. Namu, German Hydrog., No. 113; scale five miles to the inch.
- 2. Kwajalong, scale thirteen miles to the inch.
- 3. Taongi, scale eight miles to the inch.
- 4. Wotje Island (Wotje), scale one mile to the inch.
- Pingelap, Carolines (A. Chart 772), scale one and one-fourth miles to the inch.
 2-4 from German Hydrog. Bureau, No. 113.

"Albatross" Tropical Pacific Ex Coral Reefs, PLATE 227.



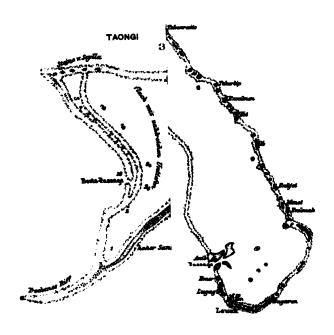
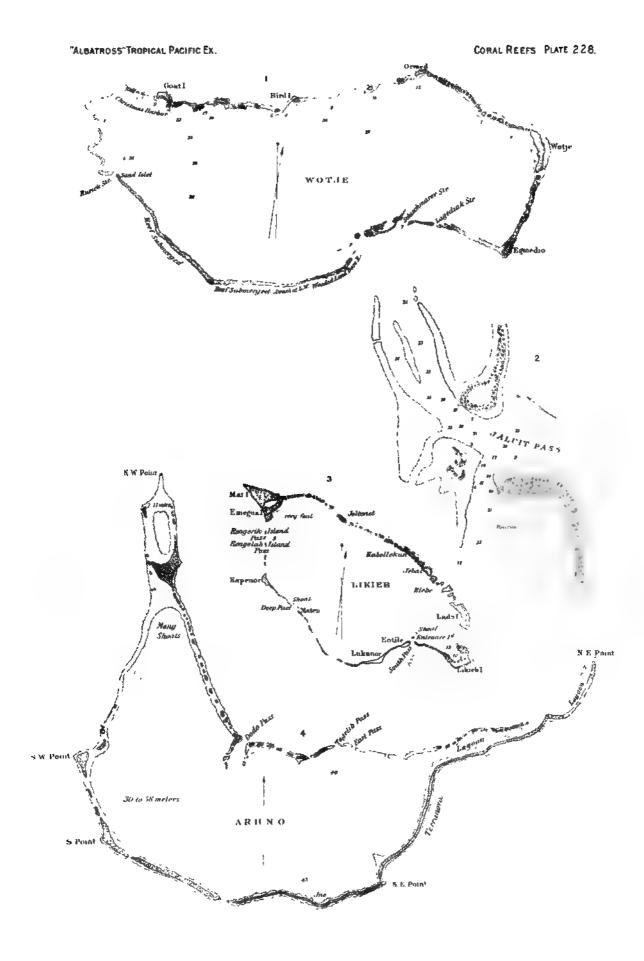


PLATE 228.

- 1. Wotje, German Hydrog., No. 113; scale six miles to the inch.
- 2. Jaluit, Southeast Pass, corrected by officers of the "Albatross," scale one-half mile to the inch.
- 3. Likieb, corrected by officers of the "Albatross," scale nine miles to the inch.
- 4. Arhno, corrected by officers of the "Albatross," scale five miles to the inch. An excellent sketch of Arhno has just been published by the German Hydrographic Bureau (1902).

2-4 from German Hydrog. Bureau, No. 113.



1		

PLATE **229**.

PLATE **229**.

Kusaie, or Ualan, Carolines, from A. Chart 878, scale one and one-fourth miles to the inch.

"Albatrose" Tropical Pacific Exp. Coral Reefs, PLATE 229.



PLATE 230.

Ponapi and the Andema Islands, from A. Chart 981, scale four and one-fourth miles to the inch.

"Albatross" Tropical Pacific Exp

Coral Reefs, PLATE 230.

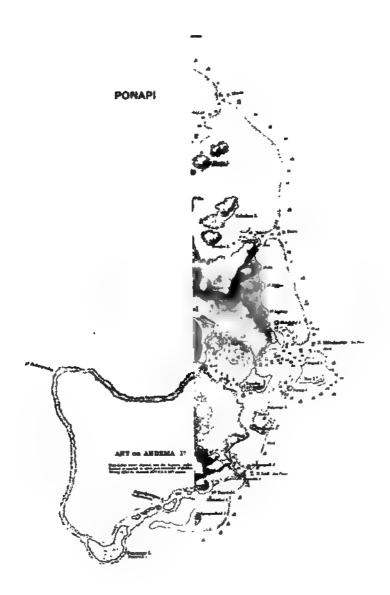
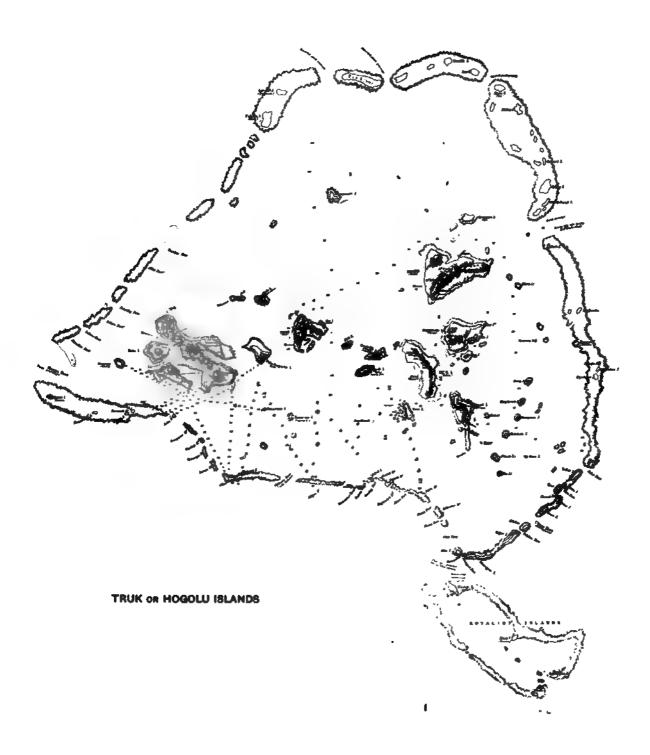


PLATE 231.

Truk and the Royalist Islands, from A. Chart 982, scale seven miles to the inch.



. . PLATE **232**.

PLATE 232.

Track of the "Albatross" west of Ponapi, through Truk to Guam.

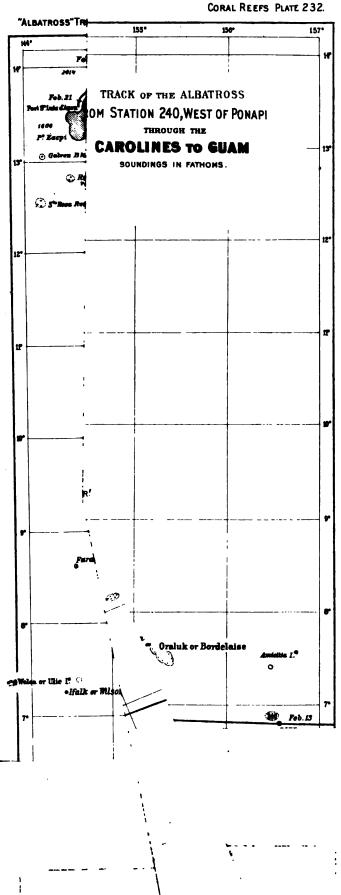
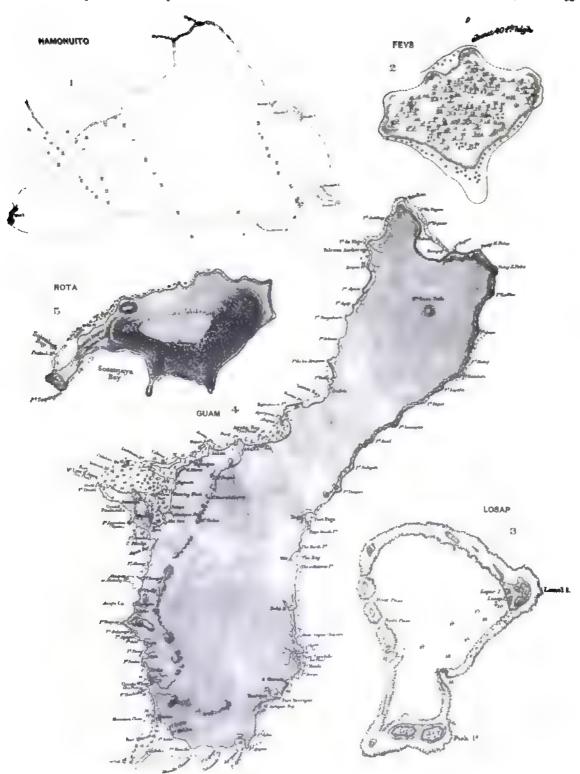


PLATE 233.

- 1. Namonuito, from A. Chart 772, scale twelve miles to the inch.
- 2. Feys, or Tromelin Island, from A. Chart 772, scale three fourths of a mile to the inch.
- 3. Losap, from A. Chart 982, scale two miles to the inch.
- 4. Guam, from A. Chart 1748, scale six miles to the inch.
- 5. Rota, from A. Chart 1748, scale three miles to the inch.

"Albetross" Tropical Pacific Expedition.

Coral Reefs, PLATE 233.



		I
	,	

PLATE **234**.

PLATE 234.

Geological Chart of the islands in the tropical Pacific:

Yellow, coral reefs, underlying base not known.

Blue, volcanic islands.

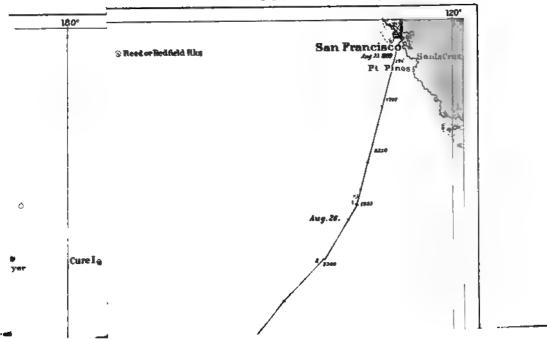
Carmine, elevated limestones.

Blue and carmipe, volcanic islands surrounded by reefs, partly elevated.

Green, coral reefs, probably underlaid by rocks of nearest land.

Blue and yellow, volcanic islands surrounded by encircling reefs.

CORAL REEFS, PLATE 234.



ilao or Pe

PLATE 235.

Bora Bora. Drawn by J. H. Emerton, from sketches by A. Agassiz and A. G. Mayer.



KING ALL ALLAND SECTION ALLA SILL

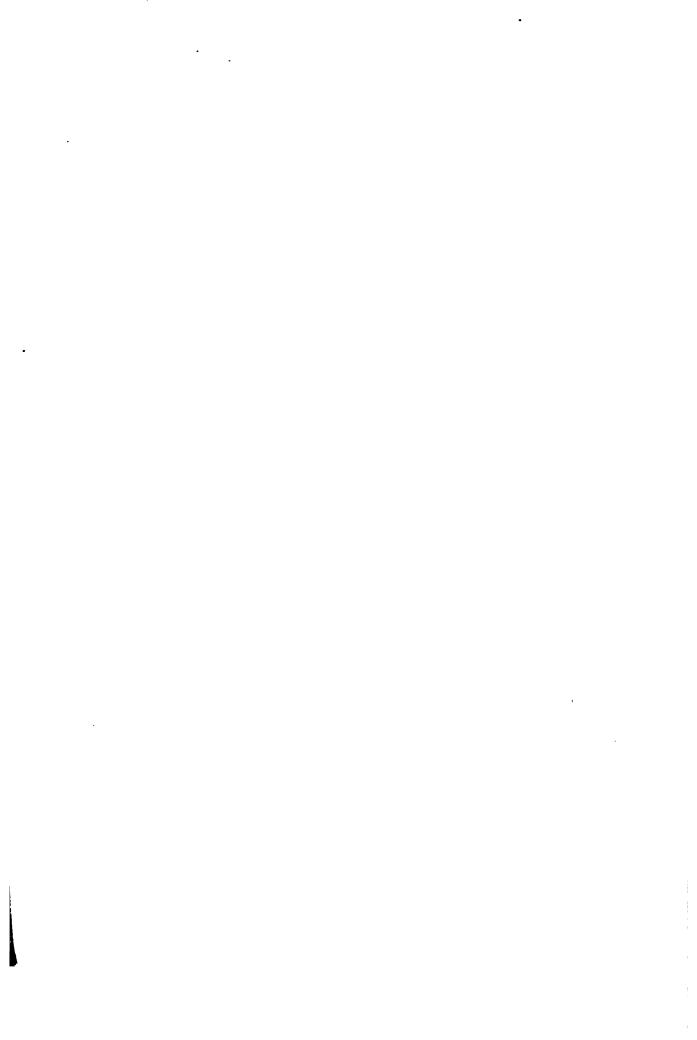
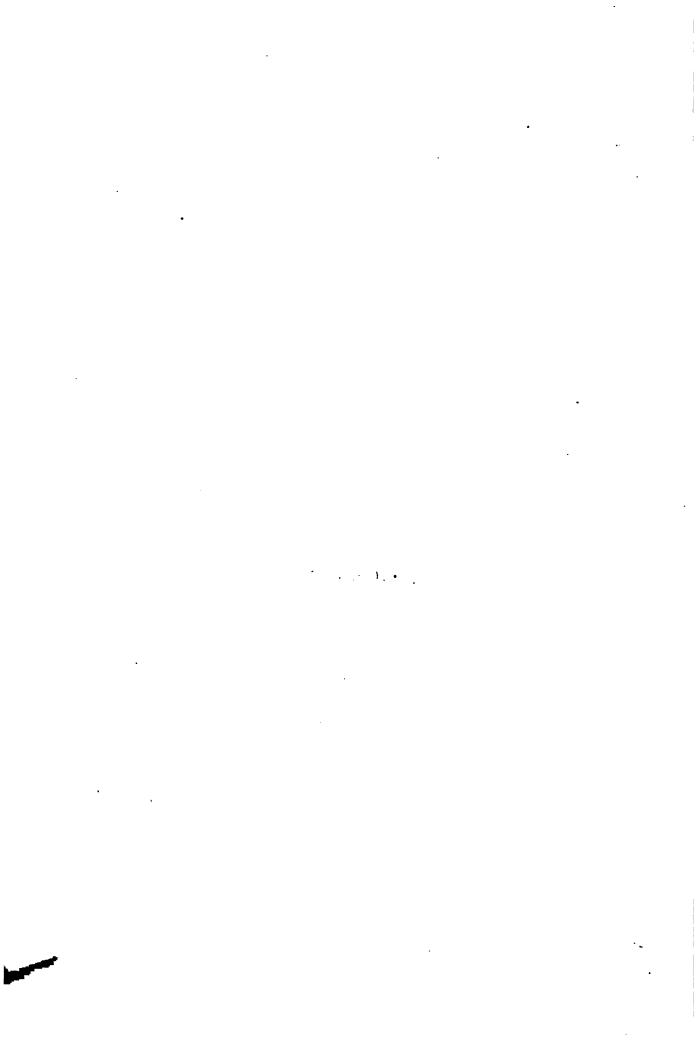


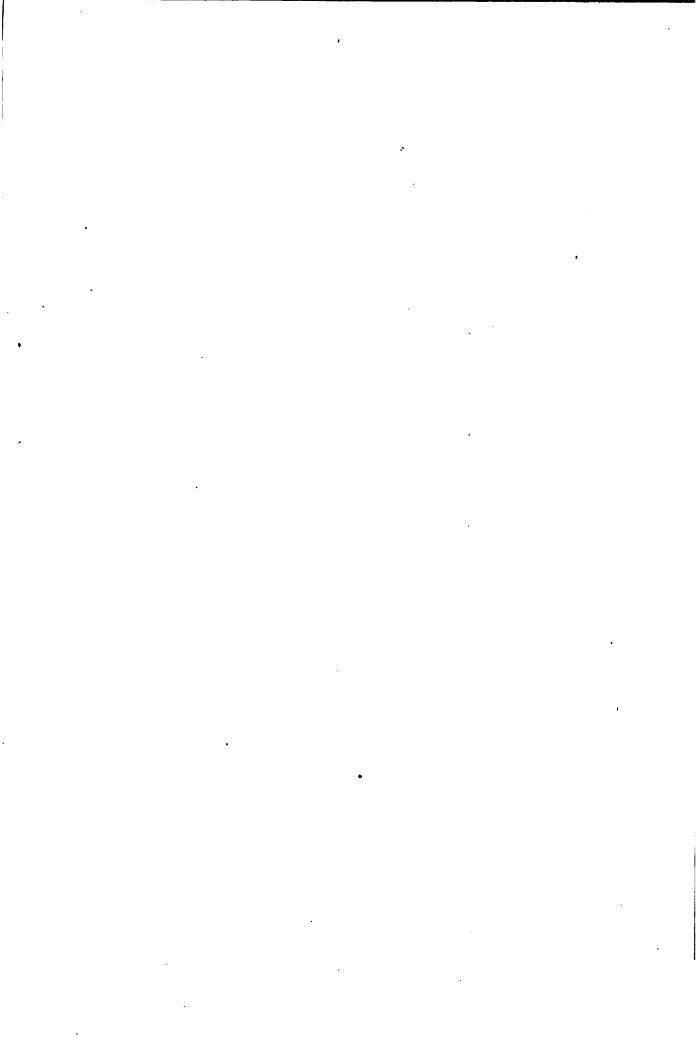
PLATE 236.

PLATE 236.

Pinaki (Whitsunday). Drawn by J. H. Emerton, from sketches by A. Agassiz and A. G. Mayer.

" Tas Tropica, 1.c.







STANFORD UNIVERSITY LIBRARY

To avoid fine, this book should be returned on or before the date last stamped below.



BRANNER EARTH SCIENCES LIBRARY

/

55196 A262c pl. 2-3

LUCKED STACKS

DATE		
		-

LECKED STACKS

